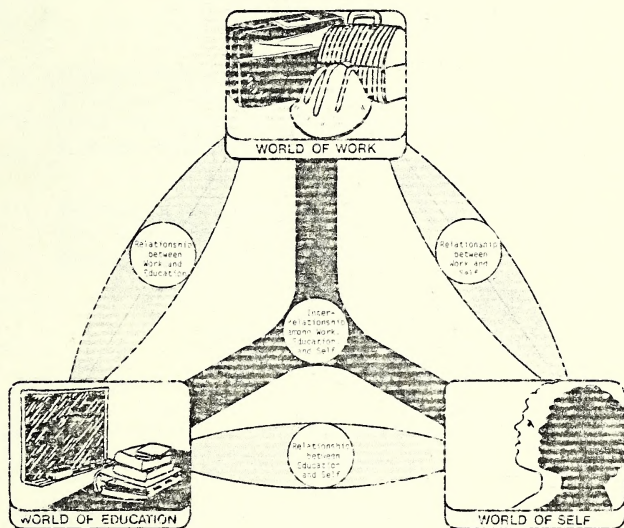


February 27, 1981

# DEVELOPMENT OF A DESIGN FOR SECONDARY EXPLORATORY VOCATIONAL EDUCATION IN NORTH CAROLINA

## PHASE I FINAL REPORT

Ernest W. Strang  
Project Director



Submitted to:

Division of Vocational Education  
North Carolina State  
Department of Public Instruction

Submitted by:

NTS Research Corporation  
2634 Chapel Hill Boulevard  
Durham, North Carolina 27707

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Submitted to: Program Improvement Unit  
Division of Vocational Education  
State Department of Public Instruction  
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Contract C7212

Notice to Reader

The material presented in this report represents views of the author which may not reflect official policies of the Division of Vocational Education or the North Carolina State Board of Education. No endorsement of the author's views by the Division of Vocational Education should be inferred by the reader.






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## EXECUTIVE SUMMARY

### PHASE I FINAL REPORT DEVELOPMENT OF A DESIGN FOR SECONDARY VOCATIONAL EXPLORATION IN NORTH CAROLINA

NTS Research Corporation of Durham, North Carolina, conducted Phase I of the Development of a Design for Secondary Level Exploratory Vocational Education in North Carolina for the Division of Vocational Education of the North Carolina State Department of Public Instruction (under Contract C7212 with the North Carolina State Board of Education.) This Executive Summary highlights the key findings and recommendations from the final report of the study.

#### Key Findings

Current Programs. This study found a diversity in views of what exploratory vocational education is or should be. North Carolina's educators do not share a common view of exploratory vocational education. While some guidance is offered by legislation and other documents, the guidance is general; nearly all of the different views held by North Carolina's educators are encompassed by the formal definitions.

This study also found a variety of courses involving some exploratory components. About 159,000 seventh, eighth, and ninth grade students (duplicated enrollment data) were enrolled in at least one vocational education class during 1979-80. About two-thirds of these (a little over 100,000) were enrolled in Occupational Exploration or Introduction to Vocations, and most of the remaining third were in Exploratory Home Economics or Exploratory Industrial Arts courses. According to the duplicated enrollment data for 1979-80, fifteen separate vocational education courses offered instruction to students in grades seven and eight; if ninth grade students are also considered, over 100 separate exploratory or introductory courses were listed, many of which, based on statements of their core competencies, included an exploratory component.

Needs for Exploratory Vocational Education. The study identified both statewide and student needs which might be addressed through exploratory vocational education.

Among the statewide employment and training needs identified were the need to have a well-trained and motivated work force to attract new industry, the need to find ways of convincing students to remain in school and graduate, and the need to make young people aware of their education and training opportunities.

Twenty student needs were identified. These needs can be classified under the headings of "world of work," "world of education," "world of self," and the interrelationships among those separate worlds. Several of the needs which were identified, particularly those concerning "relationships between education and work" and "interrelationships among work, education, and self" may not be addressed by current exploratory vocational education courses.

Students to be Served. The teachers, counselors, administrators, and representatives of other youth-serving agencies who participated in the study felt strongly that all students should have the opportunity to participate in an exploratory vocational education program at some point during the grade seven through grade nine period.

Several groups of students were suggested as priorities for being served by exploratory vocational education. The needs of members of the suggested groups appear, however, to differ more in degree than in substance from those of other students, and no consensus was noted for giving any group priority status.

Student Objectives. This study identified 20 student objectives for exploratory vocational education, and nearly all of them were rated as being "very important" or "important" by the respondents to the practitioner and administrator survey. Several of these student objectives are not encompassed within the current "core competencies" for prevocational education.

According to the respondents to the survey of administrators and practitioners, most ninth graders could not meet the identified objectives now. This was the case not only for those objectives not encompassed by the core competencies but also for the objectives which have close core competency parallels. These findings, it should be noted, are based on educators' perceptions rather than on actual student performance; validated data on student performance are not available.



### Recommendations

The primary purpose of exploratory vocational education should be to ensure that students have specific knowledge of the "world of work," the "world of education," and the "world of self"; have knowledge of the relationships among those separate "worlds"; and are able to act upon their knowledge of those relationships to make realistic, even if tentative, educational and occupational decisions.

Specific recommendations on how best to accomplish this primary purpose require data which are not presently available. In the absence of that information, which is to be provided in Phase II of this study, the following suggestions for further action, based on the findings of Phase I, should be regarded as tentative:

- Since most of the educators who participated in this study suggested that nearly all students have needs which could be met through a properly constituted exploratory vocational program, all students in grades seven through nine should be offered exploratory vocational education in some form.
- Since, in the perceptions of the participants in this study, students may not be meeting the objectives identified as important, current programs should be studied carefully to see if changes should be made in curriculum emphases.

To obtain the information needed to permit a full and fair judgment of current programs, we strongly urge the Division of Vocational Education and the State Board of Education to implement Phase II of this study at the earliest possible date. In particular, information is needed about:

- How much students are learning, and how many students actually meet the objectives which were identified as important by the teachers, administrators, and representatives of other youth-serving agencies who participated in this study; and
- Which program elements are most closely associated with helping students meet the objectives which were identified as important.

Without that information, which Phase II is designed to generate, it will be difficult to obtain support for any attempts to revise current programs or devise new ones.

### Study Design

The objectives of Phase I were "to determine the needs for, and the purposes and objectives of, exploratory vocational education in North Carolina and to formulate evaluative criteria for the exploratory component of vocational education." Phase II is to determine the relative effectiveness of current exploratory vocational education program components, and Phase III is to focus on developing and testing an improved program model, if the results of Phase II indicate a need for such an activity.

The information on which this report was based was developed through four major data collection activities:

- Interviews or meetings with 40 state-level educational administrators and policymakers;
- A comprehensive review of the literature;
- A series of six stakeholder focus group meetings involving 48 teachers, counselors, administrators, and representatives of other youth-serving agencies; and
- A survey of 200 teachers, counselors, administrators, and representatives of other agencies.

Additional information was collected through a survey of other states, by soliciting ideas from several statewide organizations, and through interviews with students.

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February 27, 1981

# 1

## INTRODUCTION

This is the final report of Phase I of The Development of a Design for Secondary Level Exploratory Vocational Education in North Carolina, conducted under contract C7212 with the North Carolina State Board of Education by NTS Research Corporation of Durham, North Carolina, for the Division of Vocational Education of the North Carolina State Department of Public Instruction. The objectives of Phase I were "to determine the needs for, and the purposes and objectives of, exploratory vocational education in North Carolina and to formulate evaluative criteria for the exploratory component of vocational education." This report addresses each of those those objectives.

This introductory chapter lays the groundwork for addressing the study's objectives in the remainder of the report. In particular, this chapter discusses what is meant by exploratory vocational education and provides a description of its current status in North Carolina. A brief overview of the study design and a discussion of how this report is organized conclude the chapter.

### What Is Exploratory Vocational Education?

One of the more important, and somewhat unexpected, findings from this study was that many of North Carolina's educators do not share a common image of exploratory vocational education. Some saw it as a series of specific courses, or even a single course, taught to students in the seventh, eighth, or ninth grades. Some others equated exploratory vocational education with K-12 career education programs. Another not uncommon view was that the introductory level



courses in specific vocational education skill-building areas constituted exploratory vocational education. And still others thought of it as a series of activities or functions largely divorced from specific courses, course sequences, or programs.

This is not to say that there are no formal definitions or that this study commenced in a vacuum. For example, a "Position Paper on Prevocational<sup>\*</sup> Education" prepared by the Division of Vocational Education (April 1980) began with the following statements:

Prevocational Education, as currently organized and described in the Vocational Education Program of Studies, is the thrust of this Division in the middle/junior high schools. The intent of this program for students in Grades 7-9 is to provide occupational information and experiences which simulate or represent typical job tasks, concepts representative of the world of work, and opportunity for the development of positive attitudes and behavior toward work.

As another example, Article 27A of the North Carolina General Statutes includes the following as one of three purposes of vocational education:

To assist individuals in the making of informed and meaningful occupational choices. (Prevocational-Introductory.) (§115-235.2).

In §115-235.3, Article 27A goes on to define what is meant by "prevocational-introductory":

'Prevocational-introductory' means an instructional program, service, or activity designed to familiarize individuals with the broad range of occupations for which special skills are required and the requisites for careers in such occupations.

In short, while guidance is offered about what is meant by exploratory vocational education, that guidance is fairly general. Any or all of the different perspectives described above can qualify, with a possible exception of career education at grades K-6.

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<sup>\*</sup> Within the Division of Vocational Education, the terms "prevocational" and "exploratory vocational" education are often used interchangeably.

## What is the Current Status of Exploratory Vocational Education in North Carolina?

In the 1979-1980 school year, the duplicated enrollment count for all vocational education courses included a total of over 159,000 seventh, eighth, and ninth graders. A little over 100,000 of these students were enrolled in two prevocational courses, Occupational Exploration (about 96,000) and Introduction to Vocations (about 5,000). The remaining students in these grades could be found within all of the other vocational program areas as well. One hundred and one specific courses were identified with ninth grade or younger students enrolled, though only 15 of these courses enrolled students below the ninth grade. The actual extent to which any or all of these courses contain explicit exploratory components is unknown; however, based on the competencies for the courses in the Vocational Education Program of Studies, most of the courses do contain at least some exploratory emphases. Table 1 provides a summary of vocational education enrollments by grade and program area; it also indicates specific courses within each program area with relatively high proportions of students in the middle grades.

An examination of Table 1 suggests that, based on available duplicated enrollment figures, the vocational program areas most directly involved with students in grade nine or younger are, in addition to the prevocational area, industrial arts (44.4 percent of their enrollment of 21,749), consumer/homemaking (31.6 percent of 67,396), and agriculture (27.8 percent of 32,263). Industrial arts and consumer/homemaking are the only program areas besides prevocational with substantial proportions of students below the ninth grade, with 26.3 and 8.7 percent, respectively, of their total enrollments in grades seven and eight. Thus, in terms of the student enrollment data, it is clear that exploratory vocational education, broadly defined, encompasses large numbers

Table 1

Duplicated Enrollment Levels of Grade 7, 8, and 9 Students in Vocational  
Education by Program Area -- 1979-80

Program Area/Specific Courses	Grades							
	7		8		9		10-12	
	N	%	N	%	N	%	N	%
<u>Agriculture</u>								
7000 Fundamentals	0	0	0	0	8309	70.4	3491	29.6
7010 Fundamentals	0	0	0	0	195	66.8	97	33.2
7061 Agri. Resources I	0	0	0	0	118	12.4	832	87.6
Other Agriculture	0	0	0	0	334	1.7	18886	98.3
(TOTAL AGRICULTURE)	(0)	(0)	(0)	(0)	(8956)	(27.8)	(23306)	(72.2)
<u>Marketing and Distributive Education</u>								
7200 Careers in Dist.	0	0	0	0	90	19.1	381	80.1
7210 Intro to Mktg.	0	0	0	0	87	46.8	99	53.2
7220 Fundamental Skills	0	0	0	0	30	73.2	11	26.8
Other Marketing & Dist.	0	0	0	0	56	.4	15045	99.6
(TOTAL MARKETING & DIST.)	(0)	(0)	(0)	(0)	(263)	(1.7)	(15536)	(98.3)
<u>Health Occupations</u>								
7930 Intro to Health	0	0	0	0	85	10.8	703	89.2
Other Health Occup.	0	0	0	0	20	.3	7277	99.7
(TOTAL HEALTH OCCUP.)	(0)	(0)	(0)	(0)	(105)	(1.3)	(7980)	(98.7)
<u>Consumer/Homemaking</u>								
7107 Exploratory Home Ec	2197	74.0	772	26.0	0	0	0	0
7108 Exploratory Home Ec	193	7.4	1991	76.8	402	15.8	0	0
7111 Personal/Family	80	.6	625	2.0	20454	65.8	9940	31.6
7115 Consumer Ed	0	0	0	0	119	5.4	2095	94.6
Other Consumer/Homemaking	3	.0	8	.0	348	1.2	28169	98.7
(TOTAL CONSUMER/ HOMEMAKING)	(2473)	(3.7)	(3396)	(5.0)	(21323)	(31.6)	(40204)	(59.7)
<u>Occup. Home Economics</u>								
7123 Coop Home Econ	0	0	1	.0	10	1.2	820	98.8
Other Occ. Home Econ	0	0	0	0	19	.4	5113	99.6
(TOTAL OCCUP. HOME ECON)	(0)	(0)	(1)	(.0)	(29)	(0.5)	(5933)	(99.5)
<u>Business and Office</u>								
6222 Secret/Word Pr.	0	0	0	0	10	4.9	195	95.1
Other Business and Office	0	0	1	.0	37	.3	12705	99.7
(TOTAL BUSINESS AND OFFICE)	(0)	(0)	(1)	(.0)	(47)	(.4)	(12900)	(99.6)
<u>Trade and Industrial</u>								
7300 Intro to Trade	0	0	89	1.1	2189	26.5	5991	72.4
7433 Gas Engine Repair	0	0	0	0	13	8.1	147	91.9
7471 Masonry I	0	0	0	0	198	7.7	2359	92.3
7501 Cabinetmaking	0	0	0	0	69	7.8	821	92.2
7511 Furniture I	0	0	0	0	92	16.3	474	83.7
7601 Electricity I	0	0	0	0	130	11.3	1020	88.7
7701 Maintenance I	0	0	0	0	113	23.2	375	76.8
7851 Machine Shop I	0	0	0	0	28	9.9	254	90.1
7903 Solar Energy I	0	0	0	0	13	6.7	181	93.3
Other Trade and Industrial	0	0	0	0	864	2.0	51601	98.0
(TOTAL TRADE AND IND.)	(0)	(0)	(89)	(.1)	(3709)	(5.6)	(63223)	(94.3)

Table 1 (Continued)

Program Area/Specific Courses	Grades									
	7		8		9		10-12			
	N	%	N	%	N	%	N	%	%	
<u>Industrial Arts</u>										
8007 Exploratory IA	1731	40.2	2262	52.5	312	7.3	0		0	
8008 Exploratory IA	49	1.9	245	9.3	2229	84.1	124		4.7	
8100 Manufact.Proc.	164	3.0	949	17.2	3981	72.0	439		7.8	
8101 Wood Technology	0	0	0	0	914	30.1	2120		69.9	
8111 Wood Technology	0	0	19	7.5	21	8.2	215		84.3	
8140 Construction	5	.3	273	14.9	1093	59.7	460		25.1	
8161 Tech. Drawing	0	0	0	0	363	20.6	1400		79.4	
8171 Tech. Drawing	0	0	0	0	47	13.7	297		86.3	
8200 Communication	0	0	3	.1	267	79.4	66		19.5	
8211 Graphic Arts	0	0	0	0	53	38.7	84		61.3	
8240 Energy/Power	0	0	0	0	115	77.2	34		22.8	
8241 Energy/Power	0	0	0	0	188	87.0	28		13.0	
8251 Energy/Power	0	0	0	0	21	22.1	74		77.9	
Other Industrial Arts	0	0	0	0	62	5.6	1042		94.4	
(TOTAL INDUSTRIAL ARTS)	(1949)	(9.0)	(3751)	(17.3)	(9666)	(44.4)	(6383)		(29.3)	
<u>Prevocational</u>										
7988 Occup. Exp.	41818	43.8	44766	46.9	9251	9.6	111		.1	
7989 Intro to Voc	242	20.9	189	16.3	690	59.5	39		.3	
7990 Intro to Voc	188	5.1	110	3.0	2937	80.2	428		11.7	
(TOTAL PREVOCATIONAL)	(42248)	(41.9)	(45065)	(44.8)	(12878)	(12.8)	(536)		(.5)	
TOTAL VOCATIONAL EDUC.	47333	13.7	52984	15.4	58871	17.1	185875		53.8	
INCLUDES "SPECIAL PROGRAMS)										



of students (about 46 percent of the total vocational education duplicated enrollment is in grades seven through nine), a large number of courses, and all of the vocational program areas.

A large proportion of students in grades seven through nine are apparently enrolled in one or another vocational education course (or courses). The exact proportions for each grade could not be determined based on the data available to this study.\*

Not only are apparently large proportions of students participating in vocational education in grades seven through nine, but the courses they are taking are widely distributed across the state's local education agencies (LEA)s. For example, 134 of the state's 145 LEAs offer either Occupational Exploration or Introduction to Vocations, and several LEAs offer both. Further, all LEAs apparently offer at least one consumer/homemaking course to students in these grades, and 96 LEAs make at least one industrial arts course available. As all LEAs seem to offer at least one of these options, it is clear that nearly all public school students in North Carolina have potential access to programs which are designed to provide at least some vocational exploration during their middle or junior high school years.

The courses in the prevocational area (i.e., Occupational Exploration and Introduction to Vocations) account for about two-thirds of the total vocational education enrollment in grades seven through nine. Because of their importance, the remainder of this section will focus on that area.

Introduction to Vocations was first implemented in 1963 in response to information collected from a public school curriculum study conducted in the late 1950s. Although several alternative designs were tried, it is now usually implemented as a

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\* Vocational enrollment data were available only in "duplicated" form; thus, the figures could not be compared directly to "unduplicated" enrollment data.

one-year course taught at the ninth grade by a single teacher in a self-contained classroom. The purpose of the course is "to assist students with making meaningful and informed occupational choices while also helping them to formulate their educational plans" according to the Vocational Education Program of Studies (Division of Vocational Education, 1977). There are six major areas of study listed in the Program of Studies:

1. Relating one's physical characteristics, educational experiences, aspirations, interests, aptitudes, personality, and abilities to occupations;
2. Relating our economic system to occupations and to us;
3. Exploring manual and mechanical occupations;
4. Exploring clerical, sales, and service occupations;
5. Exploring professional, technical, and managerial occupations; and
6. Evaluating and planning ahead (p.12).

When Introduction to Vocations began in 1963-1964, 45 teachers and 2410 students participated. Enrollment reached its peak in 1973-1974 with 23,146 students and 219 teachers; since then enrollment has declined each year, with the most recent data (1979-80) listing 4,823 students. Nonetheless, prevocational enrollments are currently over four times higher than they were in 1973-1974, largely because of the implementation of Occupational Exploration courses in the seventh and eighth, and occasionally also the ninth, grades.

Occupational Exploration grew out of initiatives in the late 1960s by Governor Scott and personnel in the State Department of Public Instruction which were designed, in part, to reduce dropout rates and to encourage vocational education efforts to begin working with students in the middle grades. Not coincidentally, the federal Vocational Education Act's Amendments of 1968 made it possible for the first time to expend federal funds at the middle grades for vocational exploration.

Occupational Exploration is designed to be taught by a team of teachers and requires a laboratory (or laboratories) which permits students to carry out exploratory activities related to occupations. The laboratory activities are to provide experiences which 1) are occupational in nature, 2) represent typical job tasks, 3) include concepts representative of the world of work, and 4) assist students in self-appraisal. In a comprehensive implementation of this program, the following five labs, each with one teacher, should be established: 1) Business Occupations; 2) Environmental Occupations; 3) Industrial Occupations; 4) Service Occupations; and 5) Occupational Information Center.\*

The "Guide for Designing and Implementing a Middle Grades Occupational Exploration Program" (Division of Vocational Education, 1976) suggests eight continuing objectives for grades 7-9:

1. Students will appraise their individual interests, abilities, potentials, desires, and needs;
2. Students will develop positive self-concepts, positive attitudes toward work, and social skills necessary for effective human relationships;
3. Students will recognize the dignity of each occupation and appreciate the contributions which each makes to our functioning society;
4. Students will explore employment trends and the nature of work in the widest possible range of careers as related to their personal interest, abilities, needs and desires;
5. Students will explore, participate in, and achieve success in job tasks related to a variety of careers;
6. Students will develop an understanding of how products and services are designed, manufactured, distributed and/or utilized in the United States;
7. Students will practice creativity, initiative and decision-making in solving problems relative to career planning, satisfaction of personal and family responsibilities, and effective community living; and

---

\* Data are not available which indicate the number of schools which have a fully implemented comprehensive program.



8. Students will make choices as they formulate educational plans for their future in line with employment possibilities and appraisal of personal potentials and limitations (p.2).

A district desiring to implement a prevocational program has seven sequencing options from which it can choose listed in the Program of Studies for Vocational Education. (An eighth option is deciding not to implement any of the other options.) These options are described briefly in Table 2 in order of their decreasing comprehensiveness.

Further description of these prevocational courses, and of the other vocational education program offerings made available in grades seven through nine, is beyond the purposes of Phase I of this project. Nonetheless, several points related to the current status of vocational exploration in North Carolina can be made on the basis of this limited discussion.

First, a great many students are involved, with most of them participating either in Occupational Exploration or in specific courses in the areas of consumer/homemaking or industrial arts.

Second, although most of the vocational education students in this grade range are in "exploratory" courses, substantial numbers are in introductory courses which are part of the sequence in specific vocational areas. This is particularly the case for ninth graders.

Third, leaving aside the introductory courses designed to be the first steps in the vocational areas, it is not clear whether the diversity of exploratory courses now offered reflects real differences in student needs across the state or some other factors.

#### Overview of this Study

This study has as its overall objective the development of a model setting forth a proposed structure for exploratory vocational education in North

Table 2

Prevocational Course Sequence Options Suggested  
in the Program of Studies for Vocational Education

Option	Grades		
	7	8	9
A	Occupational Exploration (72-90 periods)	Occupational Exploration (90-108 periods)	Occupational Exploration (180 periods)
B	Occupational Exploration (72-90 periods)	Occupational Exploration (90-108 periods)	Program Area Introductory Courses (180 periods)
C	Occupational Exploration (72-90 periods)	Occupational Exploration (90-108 periods)	Introduction to Vocations (90 periods) and Program Area Introductory Course (90 periods)
D		Occupational Exploration (90-108 periods)	Occupational Exploration (180 periods or Program Area Introductory Course (180 periods)
E		Occupational Exploration (180 periods)	Introduction to Vocations (90 periods) <u>and</u> Program Area Intro- ductory Course (90 periods)
F			Introduction to Vocations (180 periods)
G	Exploratory Home Economics (90 periods) and/or Explora- tory Industrial Arts (90 periods)	Exploratory Home Economics (90 periods)	Introduction to Vocations (90 periods) <u>and</u> Program Area Introductory Courses (90 periods)

Carolina. According to the Request for Proposals (RFP) issued for this study, specific results which should be sought include:

- Improved program offerings to help meet the needs of youth;
- Improved access to exploratory vocational education programs for students across North Carolina; and
- Improved articulation with vocational and other educational programs.

The study has been designed to be conducted in three phases. Although this report describes the results of the activities completed in the first phase, the objectives listed in the RFP for all three phases are as follows:

- Phase I--to determine the needs for, and the purposes and objectives of, exploratory vocational education in North Carolina and to formulate evaluative criteria for the exploratory component of vocational education.
- Phase II--to determine the relative effectiveness of current exploratory vocational education program configurations using the evaluative criteria formulated in Phase I.
- Phase III--to develop and test a model for the provision of exploratory vocational education in North Carolina.

Figure 1 illustrates the overall design for the three phases of this study. Specific plans to conduct Phases II and III have not been formulated by the Division of Vocational Education.

#### Phase I Activities

Phase I activities were designed to constitute a comprehensive needs assessment which would meet the objectives for Phase I and provide the rationale for subsequent model development and testing activities in Phases II and III. Phase I activities focused on identifying the needs of youth which can be realistically met through participation in exploratory vocational education programs. The identified needs of youth, in turn, structured potential objectives for such programs. The overall strategy employed was to use a variety of qualitative and quantitative methods to collect data to enable cross-validation of findings

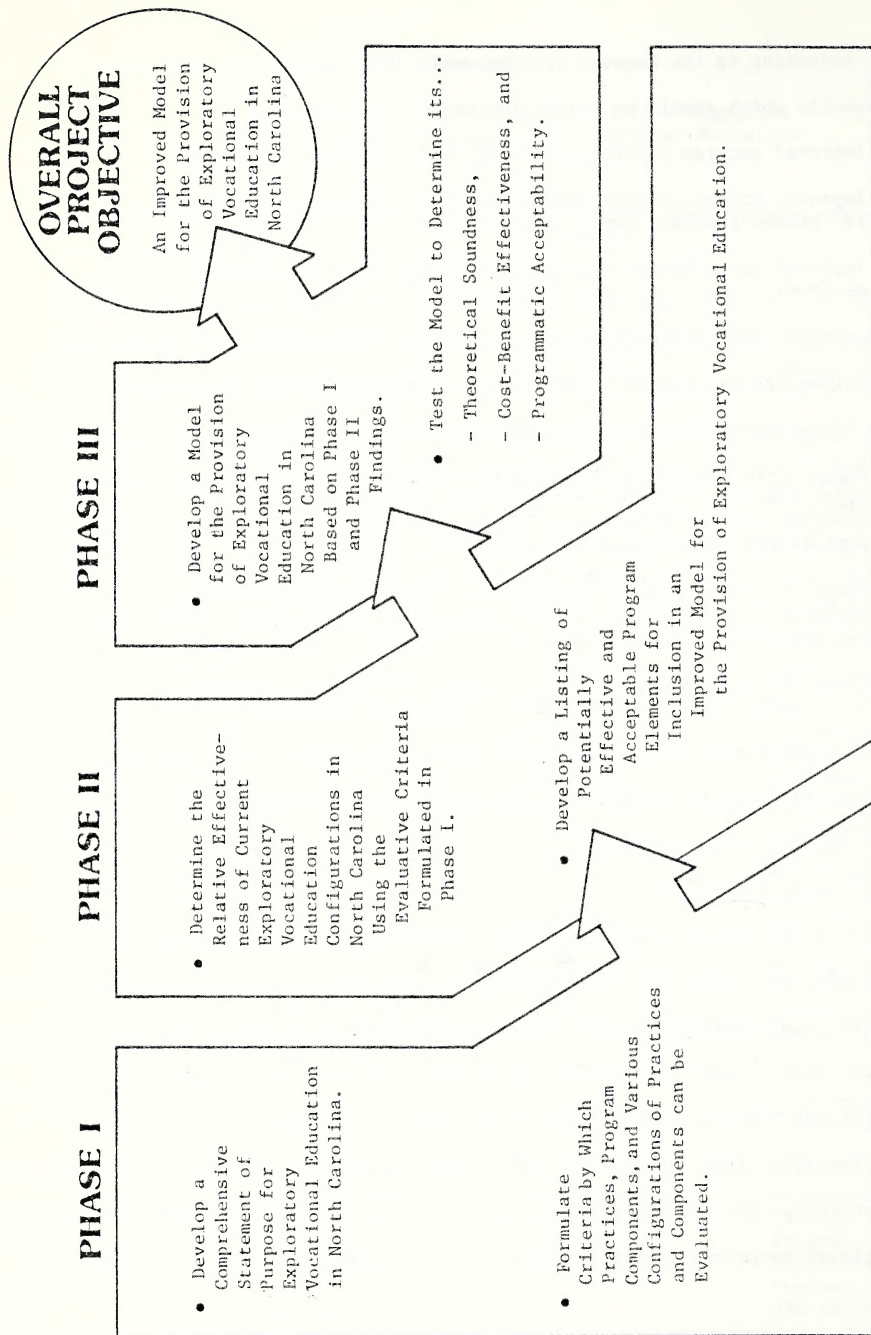


Figure 1. Objectives by Phase for the Development of a Design for Exploratory Vocational Education in North Carolina



and the subsequent development of recommendations that will be regarded as credible by different audiences.

Six separate data collection activities, illustrated in Figure 2, were carried out.

- The literature review provided detailed information on the "state-of-the-art."
- The survey of other states provided some of the "answers" developed by other states to address similar questions.
- The interviews with State level personnel provided useful insights and ideas of those responsible for making decisions about and managing programs for North Carolina's youth.
- The perspectives of members of other key statewide groups were solicited in meetings or interviews.
- Qualitative data from practitioners, administrators, and representatives of youth-serving agencies were obtained during a series of "stakeholder" focus group meetings.
- A survey of practitioners and administrators verified and ranked the importance of possible student objectives identified through the other data collection activities.

Of these six activities, four produced generally more valuable information. These four were the interviews with state-level administrators, the literature review, the stakeholder focus group meetings, and the survey of administrators and practitioners. A detailed discussion of the methodologies employed in Phase I is included in the Appendix.

### Organization of the Report

Each of the remaining chapters in this report addresses key questions concerning exploratory vocational education. The answers provided reflect a synthesis of the appropriate information collected from the six data collection activities. Where questions cannot be answered based on currently available information, the information needed is specified.

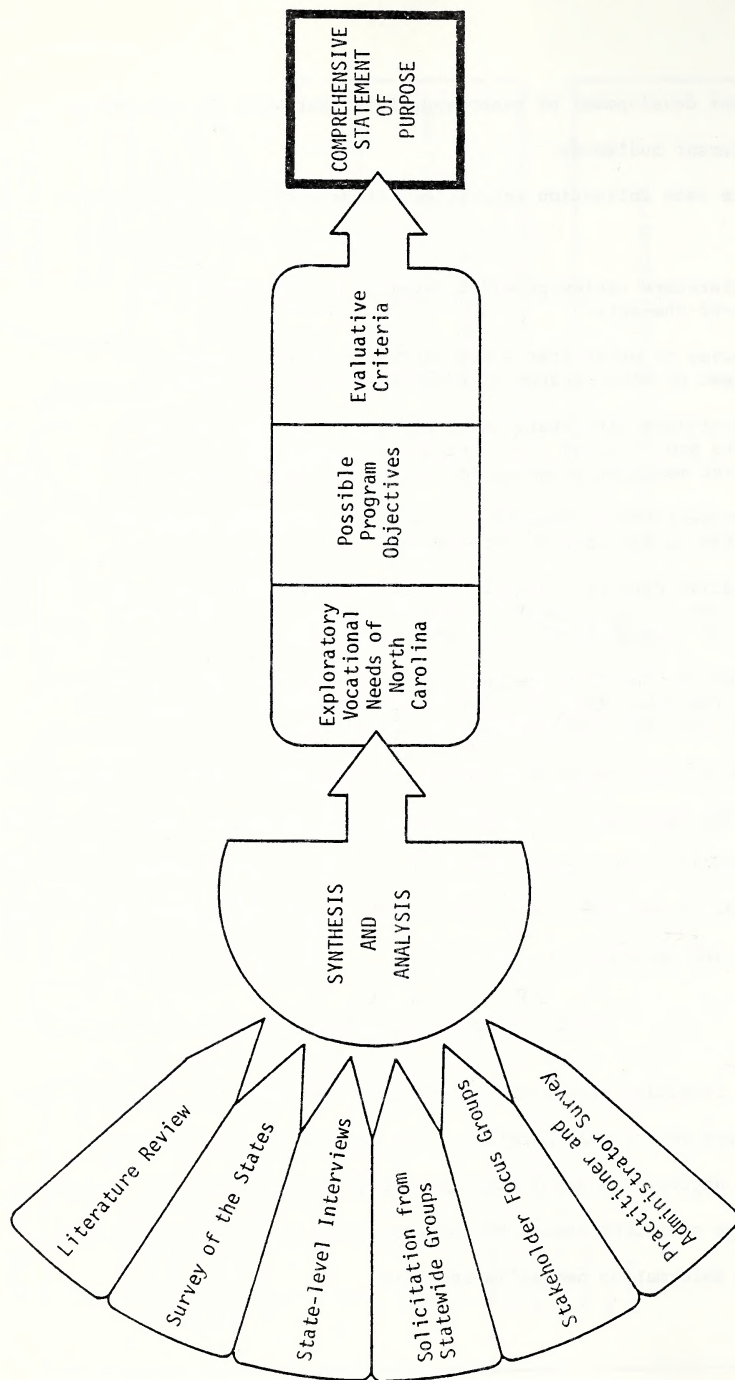


Figure 2. The Flow of Project Activities

Chapter 2 addresses the question of whether or not exploratory vocational education is needed in North Carolina. The needs of the state as a whole and the needs of students are considered.

The question of who should be served by exploratory vocational education is the focus of Chapter 3. Particular attention is paid to whether specific groups of students should be given priority and the extent to which different types of students have different types of needs.

In Chapter 4, the key question concerns what the objectives of exploratory vocational education should be. Student-level and program-level objectives are discussed.

Chapter 5 summarizes the available information related to what should be done if identified student needs are to be met. Since specific recommendations as to program models cannot be made until the conclusion of Phase II activities, the discussion in Chapter 5 is both tentative and general.

The final chapter, Chapter 6, addresses the question of how we can determine whether the proper objectives of exploratory vocational education are being met. The chapter includes the standards against which program elements should be judged and the criteria against which student performance should be measured. Further, appropriate methodologies for these evaluative tasks are suggested.





# 2

## IS EXPLORATORY VOCATIONAL EDUCATION NEEDED IN NORTH CAROLINA?

This basic question can be addressed from two closely related perspectives. First, does the state as a whole have needs which exploratory vocational education can help meet? Second, do North Carolina's students have needs which can be met through exploratory vocational education? The material presented in this chapter suggests that students do have needs which an exploratory vocational education program can address. For the state's needs, however, the answer is more ambiguous.

The remainder of this chapter focuses on the following questions:

- What are the needs of the state which can be met through exploratory vocational education?
- Are these state-level needs being met now?
- What are the needs of students which can be met through exploratory vocational education?
- Are the needs of students that could be addressed through exploratory vocational education being met now?

### What are the Needs of the State?

This section briefly explores some of the states' employment-related needs and the extent to which exploratory vocational education can help meet those needs. The material presented in this section was drawn primarily from interviews with state level administrators and from documentary sources.

North Carolina is rapidly developing its capacities in the service and high technology industrial spheres. Although the agricultural base of the state's

economy remains important, and the traditional industrial activities (e.g., furniture, textiles, tobacco, food processing) continue to provide a major share of industrial jobs, new industries are being developed rapidly. This development is probably most noticeable in the Triangle, Triad, and the Mecklenburg County corners of the "piedmont crescent," but it is hardly restricted to these areas. To meet the labor needs of these new industries, and to attract others, the state will need a well-trained and motivated work force. Thus, the young people of North Carolina must be provided the education and training opportunities that will qualify them for these new positions.

Along with the development of new industries, the service sector is rapidly expanding to keep pace. More and higher paying jobs are being created daily in the offices and retail establishments of the state. North Carolinians need the opportunities to qualify for these service jobs as well.

As some of the older industries become relatively less important in the state's economy or they upgrade their technologies (e.g., textiles), older workers may be forced to upgrade their current skills or decide upon new career options. These workers may need assistance in these efforts.

Further, the minimum entry level educational requirement for most of these new jobs is a high school diploma. Nonetheless, the current high school dropout rate is estimated to be about eight percent per year. Even though many dropouts do eventually achieve high school diploma status (although the proportion who do so are unknown), many others do not. The state needs to find ways to motivate its students to remain in school.

#### Are the State's Needs Being Met Now?

Some of the general needs discussed above have been chronic in the past few decades. For example, although the high school completion rate has increased,

an estimated 27 percent of all those who enter high school do not receive diplomas at the end of high school. Other of the needs are only now emerging, such as the need to provide education and training for workers desiring to qualify for "high-tech" jobs.

To meet these chronic and emerging needs, the state has implemented diverse educational and training programs. In addition to the vocational offerings in the public schools, the 58 institutions in the community college system provide numerous, low-cost opportunities for those who wish to obtain training for any of a wide variety of occupations. The extended school day program, which permits students to work during the day and attend school after "regular" hours, enrolled over 6,000 high school students in 1979-80. Further, high school students have the option of taking some of their coursework at their local community or technical college. The Division of Community Employment, through Balance of State CETA funds, supports a variety of employment training programs for the disadvantaged; about 60 percent of the available Comprehensive Employment and Training Act (CETA) youth program funds are used in the public schools to help develop employability skills. This list could be extended even further though the point should be clear: a variety of programs have been developed to meet the state's general employment and training needs.

At the same time, it is not clear whether these diverse programs are solving the underlying problems that led to their creation, though they undoubtedly are contributing to declines in the severity of the problems. One reason for this assessment is that many of the programs mentioned here deal with those individuals who already are in difficulty; few programs are designed to help prevent the difficulties from appearing in the first place. Exploratory vocational education could serve as one possible preventive intervention if offered early in young people's educational careers; indeed, Occupational



Exploration and Introduction to Vocations were designed to be such preventive interventions.

There is a trade-off here, of course, that stems from the nature of early preventive interventions. That is, the more distant the intervention is from the point at which individuals' difficulties begin to emerge, the more diffuse is its impact. Simply stated, other factors can intervene to lessen the desired results. For example, in the stakeholder focus group meetings and in the interviews with state level administrators, the point was made time and time again that young people drop out "in effect" several years before they drop out in fact. To the extent that exploratory vocational education addresses the needs of those who are likely to drop out, it is possible that the program could help reduce the state's overall dropout rate.

In summary, exploratory vocational education, properly constituted, may help address some of the needs of the state which were listed above, while it may have very little impact on others. From this perspective there is a rationale for such programs. Nonetheless, the rationale is arguable since data do not exist which would strongly suggest that one and one-half decades of exploratory vocational education offerings have made much difference in the frequency and severity of the state's labor-related problems. In short, a limited rationale can be developed for offering exploratory vocational education based on the state's needs. A much stronger justification, however, can be drawn based on the needs of young people themselves, which is the subject of the next section.

#### What are the Needs of Students?

One of the primary objectives of this study was to identify basic student needs that could be met through exploratory vocational education. Needs were

identified through three largely independent activities: 1) meetings and interviews with state level administrators; 2) a detailed review of the relevant literature; and 3) six separate stakeholder focus group meetings involving vocational and nonvocational administrators, teachers, and counselors as well as representatives of such other agencies as CETA Prime Sponsors and community colleges. Following the conclusion of all three activities, the needs suggested by these groups were compared and combined to form 20 key needs statements which summarized the overwhelming majority of the findings from the separate activities.\*

### Key Student Needs

The 20 needs identified in this study can be summarized within seven categories. Three of the categories relate to what could be termed the worlds of work, education, and self. Three other categories relate the worlds of work, education, and self to each of the others on a one-to-one basis; the seventh category involves the interrelationships among all three. This organizational scheme is illustrated in Figure 3 (page 24). The needs identified for students within each of these seven categories are summarized below.

#### World of Work

- Students need to know about the activities, rewards, and work situations involved in a wide variety of jobs;
- Students need to know about present and future labor market possibilities;
- Students need to know how jobs are classified;
- Students need to be able to locate and use occupational reference materials; and

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\* More detailed discussions of the findings from the separate activities can be found in the following interim reports prepared for this study: "State-level Perspectives on Exploratory Vocational Education: A Synthesis and Summary of Findings" (October 10, 1980); "The Needs of Youth: A Summary of the Literature" (November 10, 1980); and "Prevocational Needs and Objectives: Summary and Synthesis of Stakeholder Focus Group Meetings" (January 13, 1981).

- Students need to be able to demonstrate the skills used in applying for a job.

#### World of Education

- Students need to know about their educational and training options and opportunities; and
- Students need to be able to plan a realistic educational program.

#### World of Self

- Students need to understand their own aptitudes, interests, values, and needs;
- Students need to develop greater self-confidence and self-esteem;
- Students need to know how to make decisions; and
- Students need to be able to conduct self-appraisals on an ongoing basis.

#### Relationships between Education and Work

- Students need to know about the skill and educational requirements for entry into specific jobs.

#### Relationships between Education and Self

- Students need to know about the costs of dropping out of school and the alternatives to dropping out.

#### Relationship between Self and Work

- Students need to understand the importance of becoming economically independent through work;
- Students need to recognize the dignity inherent in work;
- Students need to develop good work habits and attitudes;
- Students need to accept responsibility for their own actions in both leading and supporting roles; and
- Students need to know how to overcome traditional occupational barriers related to race and gender.

#### Interrelationships among Work, Education, and Self

- Students need to know about how knowledge of themselves can be used to help make educational and occupational decisions; and



- Students need to be able to state realistic occupational and educational goals.

In short, students need to know about the worlds of work, education, and self. Further, and as importantly, students need knowledge, and be able to act upon that knowledge, about how all three of those separate "worlds" are related.

#### Are Students' Needs Being Met Now?

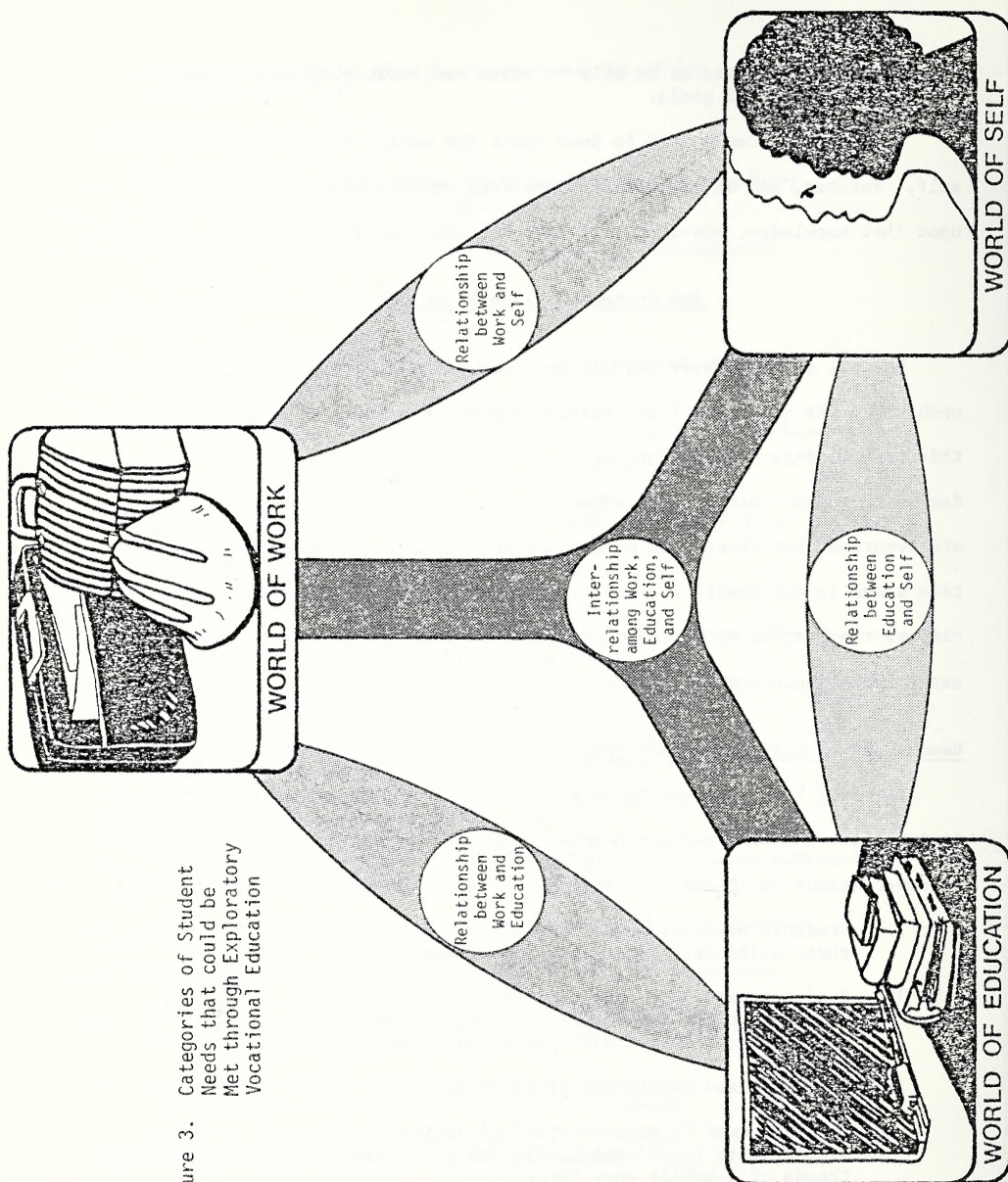
Phase I of this study was not designed to collect the detailed information upon which the answer to this question should be based. In a later section of this report, data on administrators' and practitioners' perceptions of the degree to which ninth graders appear to meet objectives based on those needs are reported, but those data do not directly address the question of needs. At this stage in the study, therefore, perhaps the most useful perspective is to compare the list of needs identified in this study with the needs which current exploratory vocational education programs are designed to meet.

#### Needs Used to Justify Current Courses

The 1969 "Occupational Exploration Task Force," whose work led to the implementation of the current Occupational Exploration course, based their recommendations on 11 specific student needs. These needs included:

1. Students need more opportunities and assistance in appraising their abilities, potentials, interests, desires, and needs;
2. Students need more opportunities and assistance in developing wholesome human relationships, positive self-concepts, and positive attitudes toward the world of work;
3. Students need additional counseling;
4. Students need "preconstructed" situations to identify vocations available in their communities and to explore the occupational trends of a mobile work force;

Figure 3.  
Categories of Student  
Needs that could be  
Met through Exploratory  
Vocational Education



5. Students need additional opportunities to familiarize themselves with our basic economic system;
6. Students need additional opportunities to explore the world of work through actual or simulated work experience;
7. Students need additional opportunities to make educational choices as they relate to future employment possibilities;
8. Students need more knowledge of the occupational training opportunities available in grades 9 through 12 and on the post-high school level;
9. Students need more opportunities to experience success and develop personal pride through educational experiences involving manipulative activities;
10. Students need more opportunities to make decisions and accept responsibilities; and
11. Students need more opportunities to observe actual work situations (Committee on Occupational Exploration, 1969, pp.20-22).

The other program in North Carolina designed specifically to address the prevocational needs of in-school youth is Introduction to Vocations. The following is the justification statement used by Beam and Clary (1967):

The justification for a vocational education course at the early high school level is associated with the needs of this age group. Youth at the early high school age have rather specific characteristics which in turn suggest certain needs. For example, they lack first-hand knowledge of the world of work; therefore, they need experiences which will supply this knowledge both directly and vicariously. They have not had opportunities to explore their capacities in various areas under a variety of situations; therefore they need opportunities to self-appraise their emerging potentials. This age group also is characterized by a lack of self-confidence; a need then is for experiences which tend to build self-assurance into the developing personality.

There is considerable research which indicates that youth tend to make occupational choices in stages. In other words, a person doesn't reach an ultimate vocational decision at a single moment in time, but through a series of decisions over a period of many years. Yet, youth are required to make a number of educational decisions at about the ninth grade level which have an important influence on their later occupational life. For example, many high schools are so organized that students must select one of several educational routes



at the beginning of the ninth grade. Other decisions must be made, such as whether or not to continue in school beyond the age of 16, and, if so, what courses to take, and whether to look forward to continuing formal education beyond high school. The decisions students make at this point influence greatly their eventual vocational careers by either limiting or increasing their future educational and thus vocational choices (p.1) (Emphasis added).

#### Comparison of Needs Identified in this Study with those Used to Justify Current Offerings

A comparison of the set of needs identified in this study with those sets on which Occupational Exploration and Introduction to Vocations are based reveals, as one would expect, several areas of consensus. At the same time, there are also some discrepancies. (These results are presented in Table 3.)

Areas of consensus on student needs. Within the three categories of the world of work, the world of education, and the world of self, the two existing courses and this study are in substantial agreement on a number of basic needs. Generally speaking, despite the differences in wording or the inclusion of one or another specific need, there is substantial agreement on the importance of these three areas. The only other category in which needs statements can be found which are common to all three perspectives is that of the relationships between education and self.

Areas of apparent lack of consensus on student needs. Neither Occupational Exploration nor Introduction to Vocations was justified by needs related to the relationships between education and work or of the interrelationships among work, education, and self. The justification for Introduction to Vocations also does not emphasize student needs related to the category of the relationships between self and work, while Occupational Exploration's rationale deals with such needs in a limited way.



Table 3  
A Comparison of the Needs Identified In this Study With Those Which Underlie  
Occupational Exploration and Introduction to Vocations

Category of Needs	Needs Identified in this Study	Needs Identified by the 1949 Task Force on Occupational Exploration	Needs Used to Justify Introduction to Vocations <sup>1a</sup>
World of Work	<ul style="list-style-type: none"> <li>Students need to know about the activities, rewards, and work situations involved in a wide variety of jobs.</li> <li>Students need to know about present and future labor market possibilities.</li> <li>Students need to know about how jobs are classified.</li> <li>Students need to be able to locate and use occupational reference materials.</li> <li>Students need to be able to demonstrate the skills used in applying for a job.</li> </ul>	<ul style="list-style-type: none"> <li>Students need additional opportunities to explore the world of work through actual or simulated work experience.</li> <li>Students need more opportunities to observe actual work situations.</li> <li>Students need "preconstructed" situations to identify vocations available in their communities and to explore the occupational trends of a mobile work force.</li> <li>Students need additional opportunities to observe actual work situations.</li> </ul>	<ul style="list-style-type: none"> <li>Students need experiences which will provide first-hand knowledge of the world of work, both directly and vicariously.</li> </ul>
World of Education	<ul style="list-style-type: none"> <li>Students need to know about their educational and training options and opportunities.</li> <li>Students need to be able to plan a realistic educational program.</li> </ul>	<ul style="list-style-type: none"> <li>Students need more knowledge of the occupational training opportunities available in grades 9 through 12 and on the post-high school level.</li> <li>Students need additional opportunities to make educational choices as they relate to future employment possibilities.</li> </ul>	<ul style="list-style-type: none"> <li>Youth are required to make a number of educational decisions at about the ninth grade level which will have an important influence on their later occupational life.</li> </ul>
World of Self	<ul style="list-style-type: none"> <li>Students need to understand their own aptitudes, interests, values, and needs.</li> <li>Students need to develop greater self-confidence and self-esteem.</li> <li>Students need to know how to make decisions.</li> <li>Students need to be able to conduct self-appraisals on an ongoing basis.</li> </ul>	<ul style="list-style-type: none"> <li>Students need more opportunities and assistance in appraising their abilities, potentials, interests, desires, and needs.</li> <li>Students need more opportunities and assistance in developing wholesome human relationships, positive self-concepts, and positive attitudes toward the world of work.</li> <li>Students need more opportunities to make decisions and accept responsibilities.</li> <li>Students need additional counseling.</li> </ul>	<ul style="list-style-type: none"> <li>Students need experiences which tend to build self-assurance into the developing personality.</li> <li>Students need opportunities to self-appraise their emerging potentials.</li> </ul>
Relationships Between Education and Work	<ul style="list-style-type: none"> <li>Students need to know about the skill and educational requirements for entering into specific jobs.</li> </ul>		
Relationships Between Education and Self	<ul style="list-style-type: none"> <li>Students need to know about the costs of dropping out of school and the alternatives to dropping out.</li> </ul>	<ul style="list-style-type: none"> <li>Students need more opportunities to experience success and develop personal pride through educational experiences involving manipulative activities.</li> </ul>	<ul style="list-style-type: none"> <li>Students must decide whether or not to continue in school beyond the age of 16.</li> </ul>
Relationships Between Self and Work	<ul style="list-style-type: none"> <li>Students need to understand their need to become economically independent through work.</li> <li>Students need to recognize the dignity inherent in work.</li> <li>Students need to develop good work habits and attitudes.</li> <li>Students need to accept responsibility for their own actions in both leading and supporting roles.</li> <li>Students need to know about how to overcome traditional occupational barriers related to race and gender.</li> </ul>	<ul style="list-style-type: none"> <li>Students need more opportunities and assistance in developing wholesome human relationships, positive self-concepts, and positive attitudes toward the world of work.</li> <li>Students need more opportunities to make decisions and accept responsibilities.</li> </ul>	
Interrelationships Among Work, Education, and Self	<ul style="list-style-type: none"> <li>Students need to know about how knowledge of themselves can be used to help make educational and occupational decisions.</li> <li>Students need to be able to state realistic educational and occupational goals.</li> </ul>		

<sup>1a</sup> Task Force Report, 1949.

<sup>1b</sup> Bean and Clark, 1967.

### Summary of the Extent to Which Student Needs are Met Now

This study identified several specific needs within important categories that are not reflected in the statements of needs used to justify current exploratory vocational education courses. These categories are those related to the relationships between education and work and the interrelationships among work, education, and self.

At the same time it must be noted that this study did not examine the extent to which current programs are actually meeting the needs identified in this study. It is certainly possible that, in the evolution of Occupational Exploration and Introduction to Vocations, these additional needs have been taken into account. To be sure, if one examines the competency statements listed for prevocational education in the Vocational Education Program of studies, several of the specific student needs which were identified in this study but which are not used to justify current prevocational courses are "covered." However, as will be pointed out in Chapter 4, there is little evidence that the needs reflected by the competencies are being met. In fact, in the views of teachers, counselors, administrators, and representatives of other youth serving agencies, the needs are not being met; this is also discussed in Chapter 4.

Other information collected during the course of the study suggests a similar conclusion. For example, teachers in the stakeholder focus group meetings who were directly involved in current prevocational courses tended to agree that the present courses were not meeting all the appropriate needs of students. Nonetheless, data were not collected during this phase of the study which would permit an unambiguous answer to the question, "Are Students' Needs Being Met Now?" This is to be a key task for Phase II.

# 3

## WHO SHOULD BE SERVED BY EXPLORATORY VOCATIONAL EDUCATION?

This chapter addresses three questions related to the basic question of who should be served by exploratory vocational education. The three questions are:

- Are there priority student groups?
- Who is being served now?
- Do different groups of students have different needs?

The chapter reaches the conclusion that, even though some student groups may be given higher priorities to be served than others because of their specific needs, generally speaking exploratory vocational education services should be available to all students at some point in the middle grades.

### Are there Priority Student Groups?

Based on the stakeholder focus group meetings, the answer to this question is a resounding, "No!" With few exceptions, to be discussed below, the participants in that set of meetings felt all students, at most delimited by grade level, should have at least the opportunity to participate in exploratory vocational education activities. The interviews with state level administrators produced a generally similar result. Nearly all of those interviewed suggested that all students need what a good exploratory vocational education program can provide, even though not all students may require a formal program.

The agreement that no specific groups of students should be given priority may stem from two factors. First, each of the meeting or interview participants had his or her own notions about what a "good exploratory vocational education program" would look like; if they were responding to another's vision of the program, they might not have been as likely to want all students involved. Second, and perhaps more importantly, the meeting and interview participants clearly felt that most of the needs of young people which could be met through exploratory vocational education were virtually universal.

In several of the interviews and in all of the stakeholder focus group meetings some student groups were suggested as being of higher priority than others. The most frequently mentioned student groups included the following:

- Potential dropouts;
- Economically or academically disadvantaged students; and
- Handicapped students.

None of these groups, however, were given priority status by more than a few participants, and, in fact, these groups were usually suggested only when the respondents were urged to consider specific groups.

The overall agreement that all students should have the opportunity to participate did not include an agreement that all students should have to participate. First, most participants felt that a specific grade range should be targeted (usually the middle grades from five through nine).<sup>\*</sup> Second, many strongly felt that students should have the option to participate but should not be forced to choose that option.

In summary, the administrators and practitioners who participated in the interviews and focus group meetings agreed that all students should be offered the opportunity to participate in exploratory vocational education activities.

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<sup>\*</sup> In fact, most suggested grades seven and eight; the other grades were suggested infrequently.



Conversely, specific groups of students should not be singled out for priority. At the same time, it was clear that if an attempt were made to make participation in an exploratory vocational education program a requirement for all students sometime in the middle grades, the attempt would be met with resistance without compelling evidence that all students have needs that exploratory vocational education can meet to justify the attempt.

### Who is Being Served Now?

Given that the "priority student group" included all students, perhaps the most appropriate question that can be asked is whether the students who are now being served by exploratory vocational education reflect the population of North Carolina's students. With data which are currently available, however, it is not possible to answer that question. For example, within the enrollment figures for vocational education, economically or academically disadvantaged students and handicapped students are "counted" only if setaside monies for those students are being used in the program. Nonetheless, within the limits of the existing data, enrollments across the exploratory courses in the prevocational, industrial arts, and home economics program areas appear to reflect the statewide proportions in terms of sex and race. At the same time, vocational enrollment proportions may be below statewide proportions in terms of disadvantaged or handicapped pupils.\* Thus, to the extent that race and gender define key groups of students, based on these data the current exploratory vocational course offerings

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\*In large measure and in addition to the problems related to program funding, these possible discrepancies may be due to different methods used to define, and thus count, students in these categories. It should be noted that CETA programs for in-school youth are designed specifically for students who are economically disadvantaged. Consequently, it is possible that many of those students are in fact being offered a variety of exploratory programs. Further, over 3,200 students in grades seven through nine who were predominantly handicapped or disadvantaged were served through supportive services or special programs offered through vocational education; these students were not included in these figures.

are serving those key groups. If, on the other hand, handicapping conditions or economic disadvantage are used to define potentially key subgroups of students, then the current course offerings may not be serving those key student groups adequately.

### Do Different Groups of Students Have Different Needs?

Several groups of students were identified in this study who could be considered to have needs which differ in degree, if not in kind, from those of other students. In fact, for virtually every potential "priority" group, one or more "unique" needs were suggested. In this section, several of these student groups' needs are discussed.

Several groups were singled out as having relatively greater needs to develop improved self-esteem or to appraise themselves more realistically. Female students (13-year olds in this case) may have a greater tendency than young males to perceive their self-worth in terms of the judgments of others (Aubrey, 1977). Thus, it may be that young women in the middle grades have a greater need than young men for assistance in conducting self-assessments. Economically and academically disadvantaged students are particularly likely to have a relatively low sense of self-esteem. Friedenber (1967) made the case for the need of adolescents for high self-esteem and the too common lack of that quality among the youth population, especially among those who are economically disadvantaged:

The most tragic thing that happens to lower-status youngsters in school is that they learn to accept the prevailing judgment of their worth. They accept and internalize the social verdict on themselves--the school is merely the latest in a series of social institutions--that have been transmitting to the youth the same appraisal of himself.

For academically disadvantaged students, they may, to a greater extent even than the economically disadvantaged, tend to have especially low views of their own capabilities and, thus, frequently they add a lack of motivation to the real problems which result from their lower academic abilities. Most of the stakeholder focus group participants who raised this point suggested that exploratory vocational education programs should include manipulative activities designed to allow these students a good chance to demonstrate success.

Other groups were suggested to have relatively greater needs related to the levels of their occupational aspirations. The economically disadvantaged tend to see themselves as eventually being in "dream" jobs (e.g., actor, professional athlete) much more frequently than do their more affluent peers (Herman, 1967; Strang, 1978). This tendency to make less realistic occupational choices is often compounded by the lack of successful occupational role models in their own families. Further, Aubrey (1977) suggested that students who are economically disadvantaged are less able to recognize their long-term responsibility for their actions. Female students were also suggested to have less realistic occupational aspirations when compared to males of the same age and status groups (Strang, 1978; Tittle, 1979; Petersen et al., 1979).

Several stakeholder focus group participants suggested that rural students have relatively greater needs to become aware of the broad array of available education and training options to them and the present and future employment opportunities that can be available for them. In turn, urban students were singled out as having relatively greater needs to recognize the importance of remaining in school.

In short, several groups were identified as having relatively greater levels of need in particular areas. At the same time, the more important point is that these differences were in terms of degrees of need rather than substance.

### Who Should be Served?--A Summary

This study's findings suggest strongly that exploratory vocational education programs should be available for all students at some point in their middle grade years. This does not mean that all students should be required to participate in such a program; nor is it necessary that all students who do decide to participate, participate in the same program. For example, it may be the case that programs could contain somewhat different emphases for economically disadvantaged students.

On the whole, however, the differences in needs identified for some student groups are differences in degree rather than in substance. Thus, even though program emphases might differ depending upon the nature of the students who are involved, the needs of students are common enough that nearly all students could be accommodated through a single basic program in the views of most of those who were interviewed for this study or participated in the stakeholder focus group meetings. Data are not available on the extent to which any of the current program options are able to accommodate these student needs. Phase II of this study could develop those data.



# 4

## WHAT SHOULD THE OBJECTIVES OF EXPLORATORY VOCATIONAL EDUCATION BE?

Previous chapters have described the needs of students that could be met through exploratory vocational education and suggested that those needs are common to nearly all students. This chapter discusses the objectives, which the program should attempt to achieve, both for an exploratory vocational education program and for participating students. To focus the discussions, material in this chapter has been organized in terms of the following questions:

- What should the exploratory vocational education objectives be for students?
  - How do the objectives desired for students compare with the objectives of current programs?
  - Are the desired student objectives being met now?
- What should the objectives be for the exploratory vocational education program?

This chapter suggests a number of conclusions, the most significant of which is that current programs may not be helping students meet all of the objectives identified as important in this study. At the same time, another important conclusion to be drawn is that the data are not available to allow a full and fair judgment of the effectiveness of current programs.

### What Should the Exploratory Vocational Education Objectives be for Students?

This study identified 20 objectives based on the interviews with state level administrators, the stakeholder focus group meetings, and the literature review.

The 20 objectives were subsequently included in a survey completed by administrators (state, regional, LEA, and building), practitioners (vocational and nonvocational teachers and counselors), and representatives of other agencies.\* One purpose of the survey was to verify the importance of the objectives, and, to be sure, all 20 were rated on average as being at least "important."

The statements of the 20 objectives closely parallel the needs statements (described on pages 20 to 24) from which they were derived, as can be seen in Table 4. That table also indicates the relative degree of importance the respondents accorded each of the objectives, as well as the mean, standard deviation, and the number of individuals who responded to each objective. Eight of the 20 objectives were rated as "very important." These objectives included the following:

- Students should develop good work habits and attitudes;
- Students should understand their own aptitudes, etc.;
- Students should be knowledgeable about...wide variety of jobs;
- Students should understand the process of decisionmaking;
- Students should develop improved self-esteem;
- Students should develop ability to accept responsibility...;
- Students should be knowledgeable about costs of dropping out; and
- Students should understand the dignity inherent in work.

Only two objectives, on the other hand, received an average rating of "less than important," though it should be noted that positive responses outnumbered negative ones in both cases. These two objectives were:

- Students should be knowledgeable about the means for overcoming traditional occupational barriers related to race and gender; and

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\*Detailed descriptions of the survey's sampling frame, response rates, and the survey itself can be found in the Appendix. Item response patterns to the survey are presented as well.

Table 4  
Relative Levels of Importance of Proposed Student Objectives

Rating of Importance <sup>a</sup>	Proposed Student Objectives (X/SD/N)			
Very Important (1.0-1.4)	Students should develop good work habits and attitudes. (1.2/.4/161)	Students should understand their own aptitudes, interests, values, and needs. (1.2/.4/160)	Students should develop improved self-esteem. (1.4/.5/160)	Students should develop the ability to accept responsibility for their actions in leadership and supporting roles. (1.4/.5/160)
	Students should understand the dignity inherent in work. (1.4/.6/159)	Students should be knowledgeable about the activities, rewards, and work situations in a wide variety of jobs. (1.4/.6/159)	Students should be knowledgeable about the costs of, and alternatives to, dropping out of school. (1.4/.6/161)	Students should be knowledgeable about the process of decisionmaking. (1.4/.7/159)
Important to Very Important (1.5-1.6)	Students should be knowledgeable about the skills and education needed for entry into specific jobs. (1.5/.6/160)	Students should be knowledgeable about education and training options and opportunities. (1.5/.6/158)	Students should understand how knowledge of themselves can be used to make educational and occupational decisions. (1.5/.6/159)	Students should understand the need for economic independence through work. (1.6/.6/158)
Important (1.7-2.0)	Students should be able to plan a realistic educational program. (1.7/.8/160)	Students should be able to demonstrate the skills used in applying for a job. (1.7/.8/159)	Students should be knowledgeable about present and future labor market materials. (1.8/.6/160)	Students should be able to locate and use occupational reference materials. (1.8/.7/159)
Not Sure to Important (2.1-2.5)	Students should be able to state realistic career goals. (1.8/.8/158)	Students should be able to conduct self-appraisals on an ongoing basis. (1.9/.7/159)		
Not Sure to Important (2.6-3.4)	Students should be knowledgeable about the means for overcoming traditional occupational barriers related to race and gender. (2.2/1.0/161)			
Not Sure (2.6-3.4)	Students should be knowledgeable about how jobs are classified. (2.8/1.0/161)			

<sup>a</sup>The mean values were based on the following scale:

- Very Important = 1
- Important = 2
- Not Sure = 3
- Not Important = 4
- Very Unimportant = 5

- Students should be knowledgeable about how jobs are classified.

Respondents were also asked to rate the importance of the objectives in two other ways. First, they were asked to list the three most important objectives, and, second they were asked to list the three least important ones. The percentage of respondents who listed each of the objectives as most or least important is illustrated in Figure 4. The figure also presents the overall rank order of the importance of the objectives as rated by the respondents.\* From Figure 4 it is clear that there is general agreement across the alternative measures on the relative importance of the objectives.

Despite the fact that some of the objectives were seen as relatively more important than some of the others, the most significant point is that all 20 objectives received, at the least, more "important" ratings than "unimportant" ones. That is, the differences observed are of degree, not direction. Further, not only did the respondents taken as a whole rate the objectives as important, but also there were only rare situations where an objective was not given an "important" rating by any of the subgroups of respondents. Virtually all types of respondents saw them as important.

#### How Do the Objectives Desired for Students Compare with the Objectives of Current Programs?

The student needs which underlie current exploratory vocational education programs did not encompass all of those identified in this study (see pages 24 to 27). It remains to be seen, however, whether or not the specific student objectives (expressed in the form of "core" competency statements) for prevocational education programs match the 20 proposed student objectives identified

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\* The overall rank order is based on the sum of the three rank orders obtained by ranking the mean value ratings, the counts of the three most important objectives, and the counts of the three least important ones.



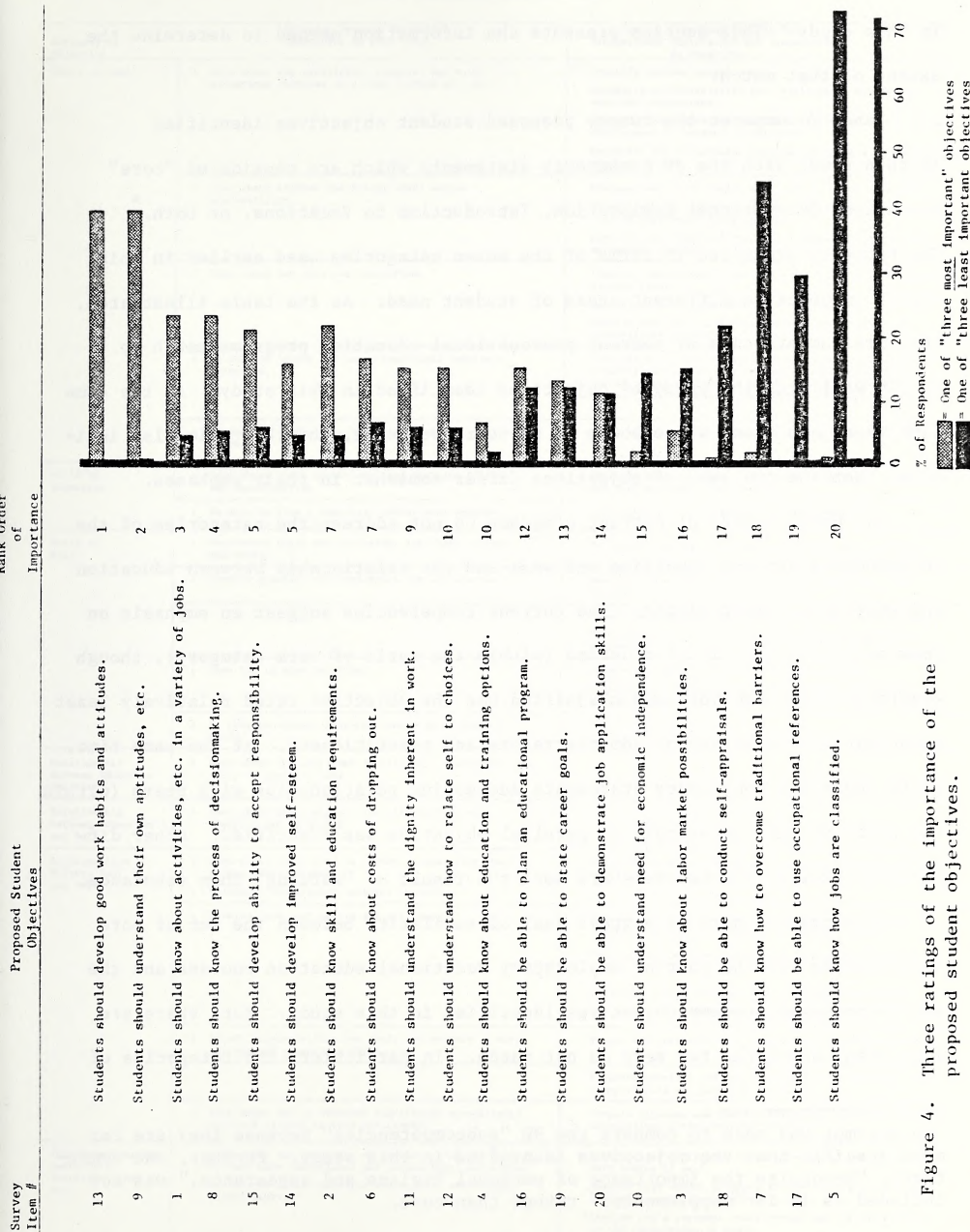


Figure 4. Three ratings of the importance of the proposed student objectives.

in this study. This section presents the information needed to determine the extent of that match.

Table 5 compares the twenty proposed student objectives identified in this study with the 30 competency statements which are considered "core" for either Occupational Exploration, Introduction to Vocations, or both.\* The table is organized in terms of the seven categories used earlier in this report to describe different areas of student need. As the table illustrates, the core competencies of current prevocational education programs match up fairly well with the proposed objectives identified in this study. At the same time there are areas where there is no correspondence, and the table also indicates that the two sets of objectives differ somewhat in their emphases.

The competencies of current programs do not address the categories of the relationship between education and work and the relationship between education and self in a direct manner. The current competencies suggest an emphasis on knowledge of occupational clusters (within the world of work category), though knowledge about how jobs are classified was the objective rated relatively least important in the survey of administrators and practitioners. At the same time, while there are competency statements addressing relationships with peers (within the world of self category), no parallel objective was identified. Other differences between the two sets are more the result of "wording" than substance.

In summary, there is a great deal of similarity between the set of core competencies for the current exploratory vocational education courses and the set of proposed student objectives identified in this study. But, there are also areas where the two sets do not match. In particular, the categories of

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\* No attempt was made to compare the 90 "subcompetencies" because they are far more specific than the objectives identified in this study. Further, one competency, "Recognize the importance of personal hygiene and appearance," was not included as it is "supplemental" rather than core.

Table 5

A Comparison of the Student Objectives Identified in this Study with the Core Competencies of  
Current Prevocational Education Courses

Category of Objective	Proposed Student Objectives Identified in this Study	Current Core Competencies for Occupational Exploration and Introduction to Vocations
World of Work	<ul style="list-style-type: none"> <li>Know about the activities, rewards, and work situations involved in a wide variety of jobs.</li> </ul>	<p>Identify reasons people work.</p> <p>Recognize characteristics and abilities of workers in selected occupations.</p> <p>Identify conditions and practices needed for a safe working environment in various occupations.</p> <p>Recognize how businesses organize and operate in the American economic system.</p>
	<ul style="list-style-type: none"> <li>Know about present and future labor market possibilities.</li> </ul>	<p>Examine employment trends in a variety of occupations.</p> <p>Recognize how production, distribution, and consumption relate to employment opportunities.</p> <p>Describe the affect of supply and demand of workers on employment trends.</p>
	<ul style="list-style-type: none"> <li>Know about how jobs are classified.</li> </ul>	<p>Identify occupational clusters and a variety of occupations in each cluster.</p> <p>Recognize the interdependency of occupations.</p> <p>Explain the use of a job classification system using occupational clusters.</p>
	<ul style="list-style-type: none"> <li>Be able to locate and use occupational reference materials.</li> </ul>	<p>Identify a variety of ways to learn about occupations and properly use occupational resource materials on skills needed, tasks performed, qualifications, training requirements, fringe benefits, and geographical distribution of jobs.</p>
	<ul style="list-style-type: none"> <li>Be able to demonstrate the skills used in applying for a job.</li> </ul>	<p>Apply appropriate procedures used in seeking employment.</p>
World of Education	<ul style="list-style-type: none"> <li>Know about their educational and training options and opportunities.</li> </ul>	<p>Evaluate educational opportunities in business, government, and post-secondary institutions.</p>
	<ul style="list-style-type: none"> <li>Be able to plan a realistic educational program.</li> </ul>	<p>(See below under "Interrelationships Among...")</p>
World of Self	<ul style="list-style-type: none"> <li>Understand their own attitudes, interests, values, and needs.</li> </ul>	<p>Recognize personal interests, abilities, and attitudes.</p>
	<ul style="list-style-type: none"> <li>Develop greater self-confidence and self-esteem.</li> </ul>	<p>Analyze the relationship between self-confidence and success.</p>
		<p>Communicate effectively feelings and ideas among friends.</p> <p>Function cooperatively with fellow students and school personnel.</p>
	<ul style="list-style-type: none"> <li>Know how to make decisions.</li> </ul>	<p>Examine and apply the decision-making process.</p> <p>Describe the importance of flexible goals and ongoing decision making.</p>
	<ul style="list-style-type: none"> <li>Be able to conduct self-appraisals on an ongoing basis.</li> </ul>	
Relationship Between Education and Work	<ul style="list-style-type: none"> <li>Know about the skill and educational requirements for entry to specific jobs.</li> </ul>	
Relationship Between Education and Self	<ul style="list-style-type: none"> <li>Know about the costs of, and alternatives to, dropping out of school.</li> </ul>	
Relationships Between Self and Work	<ul style="list-style-type: none"> <li>Understand their need to become economically independent through work.</li> <li>Recognize the dignity inherent in work.</li> </ul>	<p>Recognize how one's personal value system relates to life-style and occupations.</p>
	<ul style="list-style-type: none"> <li>Develop good work habits and attitudes.</li> </ul>	<p>Compare positive work habits and attitudes with one's personal behavior as required by specific jobs.</p> <p>Use oral and written instructions for performing job tasks.</p> <p>Maintain his/her work area in a satisfactory manner.</p> <p>Use materials, tools, and equipment in a responsible manner.</p>
	<ul style="list-style-type: none"> <li>Accept responsibility for their own actions in both leading and supporting roles.</li> </ul>	<p>Assume responsibility for completing job tasks consistently.</p>
		<p>Evaluate physical and mental abilities in relation to job opportunities and personal interests.</p>
	<ul style="list-style-type: none"> <li>Know about how to overcome traditional occupational barriers related to race and gender.</li> </ul>	<p>Compare personal and career aspirations with the career expectations others hold for him/her.</p>
Interrelationships Among Work, Education, and Self	<ul style="list-style-type: none"> <li>Know about how knowledge of themselves can be used to help make educational and occupational decisions.</li> <li>Be able to state realistic educational and occupational goals.</li> </ul>	<p>Describe the difference between realistic and unrealistic work images of self.</p> <p>Analyze high school programs as they relate to jobs and tentative personal educational plans.</p> <p>Examine one's personal value system and its relationship to the formulation of goals.</p>



the relationship between education and work and the relationship between education and self are not covered by the core competencies. To the extent, then, that the identified student objectives reflect students' needs now, it may be necessary to reorient current program offerings.

A stronger recommendation about reorienting current offerings will require further information. First, data are not currently available as to the extent to which the present competency statements are actually used to guide what is taught in the classroom. It may well be that the objectives proposed in this study are being covered, but further study will be necessary to determine the degree to which that is the case. Second, reliable information is not available on a program-wide basis which would permit judgments on whether the proposed objectives (or even the current competencies) are actually being met by students. To provide a stronger recommendation, therefore, requires the information that Phase II of this study is designed to provide. At the same time, an indirect answer to the second concern, i.e., the extent to which students now meet the proposed objectives for exploratory vocational education, can be drawn from data collected during this first phase. These data are the topic of the next section.

#### Are the Desired Student Objectives Being Met Now?

In addition to asking for a rating of the importance of each of the objectives, the practitioner and administrator survey asked respondents to provide their perceptions of what proportions of ninth grade students meet the objective now. Based on the indirect data collected concerning whether or not students are meeting the proposed objectives now, the answer would appear to be that students are not. For only one objective (i.e., students should develop improved self-esteem) were there more positive than negative assessments of ninth graders' current



achievements.\* In fact, for only one objective (i.e., students should develop good work habits and attitudes) did as many as five percent of the respondents say that "nearly all meet." Overall, then, based on the average ratings of the administrator, practitioners, and representatives of other agencies included in the survey's sample, more students are not meeting the objectives than are. Table 6 contains data on the perceived levels of student achievement on the 20 objectives.

How poorly the students are perceived to be doing appears to be partially a function of the role of the respondents. Significant differences were found between those in different roles for 12 of the 20 objectives.\*\* For most of the 12 situations where there were significant differences, vocational education practitioners (four objectives) or building level administrators (seven objectives) had the relatively most positive views of students' current attainment levels, though even those relatively positive views were only slightly positive in an absolute rating sense. Representatives of other agencies generally had the most negative views of student achievement levels (for 11 of the objectives with significant between-position differences). That the respondents least directly involved with ninth grade students had the most negative views might be seen as somewhat reassuring as those views are based on little direct knowledge. Nonetheless, even with their views not considered, most respondents still felt more students were not meeting the objectives than were.

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\* It should be noted that this objective also received by far the largest number (72) of "not sure" responses; thus, only limited confidence can be granted as to whether this objective is actually an exception.

\*\* Analysis of variance was used with a two-tailed F test to determine significance at the .05 level. For a full discussion of these results, see the interim report entitled "Summary of Results of the Practitioner and Administrator Survey" (January 30, 1981).

### Practitioners' and Administrators' Perceptions of the Extent to which Ninth Grade Students Meet the Proposed Student Objectives

[illegible]

<sup>a</sup>The average ratings were based on the following scale:

- 1 = nearly all meet  
2 = most meet  
3 = not sure  
4 = most do not meet  
5 = nearly all do not meet

It must be noted that these negative views reflect perceptions of administrators and practitioners rather than actual student performance, but the tendency of most respondents, even those who teach each of the current exploratory vocational education courses, to rate students as not meeting the objectives cannot be ignored. In short, it is probable that most students in their first year of high school do not now have the skills and knowledge needed to meet the identified objectives at a satisfactory level.

#### What Should the Objectives be for the Exploratory Vocational Program?

Little information was gathered during Phase I on potential program level objectives, nor were many suggestions offered by those who participated in the study.\* Those objectives which were suggested concerned helping prevent dropping out and allowing the vocational skills programs to begin teaching skills earlier in their course sequence. More wide-ranging objectives (e.g., help students get and keep jobs) were either not suggested or, if suggested, were quickly discarded as being beyond reasonable expectations for any single program in the middle grades.

#### Help Reduce the Dropout Rate

The argument that was generally used to support this objective was based on two premises. First, because of the state's need for a work force which can qualify for new and more complex jobs (see pages 16 and 17 of this report), it is necessary to increase the graduation rate. Second, exploratory vocational education should prevent dropping out by being able to show students the important relationships between completing schooling and work success. Since exploratory

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\* Program level objectives were a topic in the state-level interviews and, though "not on the agenda," generally came up in the stakeholder focus group meetings.

vocational education is supposed to (1) provide students with their first exposure to the adult working world and (2) include at least some hands-on activities, students exposed to exploratory vocational education will be, presumably, motivated to stay in school.

The first point of the argument does not appear questionable. The second point (i.e., motivating students to remain in school) requires a great deal of additional, and not presently available, data to support it. For one thing, at least some students drop out for reasons that have nothing to do with whether or not they recognize the relationship between educational attainment and job success (Cf. Paulsen et al., 1979); for another, North Carolina's dropout rate seems to be approaching a nationwide "plateau" below which it has been very difficult to get (National Center on Educational Statistics, 1980).

Further, the argument supporting the important role exploratory vocational education can take in helping reduce the dropout rate can be questioned from two perspectives. First, most of the students who drop out recognize the importance of the linkage between educational attainment and job success (Paulsen et al., 1979). Second, courses providing exposure to the adult working world along with hands-on activities have been offered in North Carolina for many years; for example, Occupational Exploration is one such course. There appear to be no data available, however, which indicate these courses have lowered the dropout rate.

#### Allow Skills to be Taught Earlier in a Course Sequence

Currently each of the vocational education skills programs offers at least one introductory level course. Further, in most of these introductory level courses, many of the student competencies listed parallel those for the exploratory level courses.\* Thus, to the extent the parallels are clearly

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\*The sole exception, based on a review of the competencies presented in "Competency Goals and Performance Indicators K-12" (1980), appears to be Health Occupations.



redundant, students who have completed an exploratory course successfully (i.e., met the competency requirements) could start earlier with skill building activities. Even more importantly, if all students have completed an exploratory course prior to enrollment in a vocational skills building program, the curricula could be redesigned to eliminate the redundant elements.

The appropriateness of this proposed program objective is conditioned on the premise that all students will indeed successfully complete an exploratory vocational education program (or demonstrate their competencies in other ways) prior to their enrollment in a skill-building sequence. Practically, however, it is unrealistic to expect all students to meet this prerequisite. Some students will transfer into North Carolina's high schools who have not had the opportunity because they are from out of state, from nonpublic schools, or from districts in the state which have not implemented an exploratory program. Other students will not have been able to complete their exploratory program successfully. Thus, although some students will be able to commence skill-building activities at the start of their vocational skills program, others will have to start with the exploratory competencies.

#### Summary of Program Level Objectives

Two program-level objectives were proposed for exploratory vocational education: 1) help reduce dropout rates; and 2) allow skills to be taught earlier in the vocational education course sequences. Because of the lack of supporting data, the arguments advanced in the first objective's favor were not compelling. The second proposed program objective also has problems; it would logically require all students to complete an exploratory course successfully prior to enrolling in a skill-building sequence in order to avoid the need to teach to the exploratory competencies in the skills course. Thus, while the

suggestions appear possibly suitable as program level objectives for exploratory vocational education, for now they might be better considered as worthy goals.

# 5

## WHAT SHOULD BE DONE?

The previous chapters of this report have identified several discrepancies between what is available now and what was identified as important through this study. After briefly recapping these discrepancies, the remainder of this chapter suggests several steps that could be taken to reduce the size of the discrepancies. These suggestions should be regarded as tentative because, in most cases, data are not available upon which firm recommendations could be based. Nonetheless, until those data can be obtained (which is the key suggestion of this chapter), the information presented in this report supplies several guideposts.

### A Recapitulation of the Key Findings

In Chapter 1, it was pointed out that at any given time large numbers of the students in the seventh, eighth, and ninth grades are enrolled in an exploratory vocational education course. Two-thirds of these (a little over 100,000) are enrolled in either Occupational Exploration or Introduction to Vocations, and most of the remaining third are in exploratory home economics or exploratory industrial arts courses. One other key finding in that chapter was that there were several different "images" of what constitutes exploratory vocational education, any or all of which can be subsumed by the legal definitions set forth in the General Statutes.

Chapter 2 looked at the needs of the state and the needs of students that could be met through exploratory vocational education. In terms of the needs of

the state, exploratory programs may have an impact on some needs but not others, with the difference being largely a function of the period of time between the emergence of the particular problem and when participation in the program occurs. The justification in terms of student needs was stronger. This study identified 20 important needs, several of which are not encompassed by the justifications for current programs. These possibly unmet needs were especially prevalent in the categories of "relationships between education and work" and the "interrelationships among work, education, and self."

Chapter 3 posed the question of who should be served through exploratory vocational education. It was suggested that all students should have the opportunity, at some point in the middle grades,<sup>\*</sup> to participate in exploratory vocational education programs. Even though several groups of students were suggested to have needs which were somewhat unique, those needs differed more in degree than in substance from those of other students.

Chapter 4's material made two main points. First, some of the objectives identified as being important in this study do not have direct parallels within the list of core competencies established for Occupational Exploration and Introduction to Vocations. Second, at least in the perceptions of the sample of administrators and practitioners who responded to this study's survey, most ninth grade students may not be meeting the objectives which were identified as important. Further, these perceptions included those objectives where there was a match between the objective and current competency statements.

To summarize, the following points should be taken as the "givens" upon which the suggestions made in this chapter are based:

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<sup>\*</sup>"Middle grades" in this study refers primarily to grades seven through nine.



- Current exploratory programs in prevocational, home economics, and industrial arts represent only one set of possible exploratory options that could be implemented within current statutory guidelines.
- All students, at some point in the middle grades, should have the opportunity to participate in an exploratory vocational education program if they choose to do so.
- Based on the "needs statements" used to justify Occupational Exploration and Introduction to Vocations, several student needs identified in this study are not currently covered.
- There are several student objectives which were identified as important but which may not be encompassed by current offerings; further, students are not perceived to be meeting the student objectives identified in this study.

#### What Actions Should be Taken?

The remainder of this chapter provides suggestions, based on the "givens" listed above, for actions which would address the needs for exploratory vocational education identified in this study.\*

#### What Should Exploratory Vocational Education Try to Accomplish?

Students, upon completing participation should know, and be able to apply, information related to the 20 objectives identified in this study as being important. In brief, this means having specific knowledge of the "world of work," the "world of education," and the "world of self," knowing how to relate the knowledge of those separate "worlds" to one another, and being able to act upon knowledge of those relationships to make realistic, even if tentative, educational and occupational decisions.

Since many of the proposed objectives are encompassed by current offerings, it may be possible to accomplish the above by modifying what is available now. However, the perceptions of administrators and practitioners that the objectives

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\* Although more data are needed prior to making firm recommendations, the RFP required that "recommendations for subsequent decisions and actions" (p.2) be included in the report.

with parallel core competencies are not now being met provide disquieting evidence. At the same time, and this point cannot be made strongly enough, it is not possible to state that students are in fact not meeting the objectives of the current program offerings. Data on student attainment of the core competencies are not available on a statewide basis, and, until such data are available, reworking, discarding, or leaving current programs intact are all supportable options.

Thus, although confidence can be placed in this study's findings, more information is needed before a firm decision can be made about whether or not to revise the curriculum emphases of the current exploratory vocational education programs. We strongly urge the Division of Vocational Education and the State Board of Education to consider rapid implementation of Phase II of this study to permit a sound decision on whether to revise the current prevocational program, discard it and implement another, or keep the current prevocational program as it is now.

If Phase II is not to be implemented, then the weight of the evidence collected during this phase suggests that the current program will require some revisions. The remainder of this chapter provides some possible directions those revisions could take.

#### What Should the Curriculum Emphasize?

For students to make realistic educational and occupational decisions, emphasis should be placed on helping them understand the relationships among the worlds of work, education, and self. Certainly, detailed knowledge of each one of those worlds is important, but in the long run it is the ability to act upon

knowledge of the interrelationships that is most important. Therefore, the curriculum should provide situations in which students would have to apply the knowledge in hypothetical "case study" situations which apply realistically to themselves.

No suggestions can be made with any degree of confidence concerning which instructional approach or approaches should be implemented. The literature is largely silent about the relationships between specific approaches and the attainment of specific exploratory vocational education outcomes. There is a corresponding need to learn a great deal more about what instructional approaches work best for which types of students in order to ensure that the best approaches are used.

#### Should Exploratory Vocational Education be a Separate Course?

Three perspectives were offered by participants in this study about whether exploratory vocational education should be provided through a single, separate course rather than through a variety of courses and course sequencing options as is done now. Some participants argued that the topics about which students needed to learn could be covered more easily and efficiently as components of several courses, including nonvocational education courses. Some of these individuals also urged full implementation of a career education emphasis at all grade levels and in all classes. A few study participants suggested that, while a specific course may be necessary for most students, it would not be needed for a few students who could obtain the information via other means. Most study participants, including most of those recommending the K-12 implementation of career education, felt the needs of students were such that at least one specific course should be offered which addressed them.

Given this study's suggestion that all students should not be required to participate in exploratory vocational education (though all students should have the option), a single and separate course would probably be satisfactory in the view of many focus group participants. Students who do not need such a course would not have to take it, and students who had limited needs could choose whether to meet those needs independently or through the course. (Guidance personnel should have a major role in helping students make this decision.) By following this path, the recommendations of most of the study participants would be met.

#### Should the Same Program be Implemented Statewide?

It has been suggested that all students should have the option available to them to participate in exploratory vocational education, and, therefore, all districts should offer an exploratory vocational education option in all appropriate schools. However, without much more evidence than now exists about which strategies yield the best results for the most students, it is not appropriate to suggest that all districts should implement the same option. Different districts, and schools within them, have different resources available to them and different types of students. As a practical matter, persuading those closest to their own situation to implement something different will require that the evidence be compelling.

It is true that the suggestions offered in this chapter could be incorporated into many different course structures. Further, because of a lack of data on the relative effectiveness of alternative course structures, at this time there is no compelling reason to change those structures. But, for those districts and schools where no program is offered, based on the comments of the participants in this study we urge the appropriate personnel at the state, local and building levels to begin the implementation of some exploratory vocational education program to



help meet the needs of their students, unless it can be demonstrated that the needs of their students are being met through other means. In addition, due to differences in the resources available to districts, it may well be that some options are more suitable, cost and student performance considered together. Additional research is needed, however, before specific recommendations can be made about which option may be "better" for a given level of resources.

#### What Practical Problems can be Envisioned?

There are three practical problems that will have to be addressed before any specific program structure can be recommended. Although solutions to these problems are to be developed in a possible Phase III of this study, it is necessary to enumerate them here.

Who will pay for exploratory vocational education? Presently there are insufficient state and federal monies available to provide full funding for vocational education programs in all school districts. As long as this situation exists, districts will give priority to the vocational skills programs. Thus, any recommendation that districts implement a new program with new or increased costs will have to be accompanied by either the necessary financial resources, very compelling evidence as to the program's worth, or both.

What about teacher certification? Beginning with the initiation of Introduction to Vocations and continuing through wide-spread implementation of Occupational Exploration, several thousand teachers have been certified to teach in the prevocational area. Depending on the extent that a recommended program deviates from current offerings, it may be possible to use existing personnel, it may be necessary to undertake a major staff development effort, or it may even be necessary to develop new certification requirements. The latter will, in turn, require changes in what is now provided by the state's teacher training

institutions. As a practical matter, this complex of possible problems suggests not changing the current offerings to a marked degree. However, if a major change is needed to meet the needs of students, then this complex of problems will have to be addressed.

Where will the time be found? The middle grades are not noted for having large blocks of "free time" available for implementing new programs. Therefore, in those schools in which none of the possible exploratory options (including industrial arts and home economics) are now offered, finding the time for even one of the options may seem all but impossible. This "impossibility" appears more evident than real, however, when one considers that most districts already make at least one option available. Even with the competing and equally valid claims of the other electives, it should be possible for a district to make at least some time for exploratory vocational education available to all students at some point in grades seven-nine without precluding participation in other elective areas. Again it should be noted, exploratory vocational education has been suggested as an option that should be available for all students, not that it should be required for all students.

#### How Difficult Will it be to Implement Programs to Meet the Objectives?

Respondents to the administrator and practitioner survey also were asked to estimate the level of difficulty expected to implement a program to meet each of the 20 student objectives. Although most of the average ratings tended toward "easy," few respondents thought it would be "very easy."<sup>\*</sup> Further, there were almost as many "difficult" as "easy" responses, and little difference in the ratings was observed based on the role of the respondent.

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<sup>\*</sup> These ratings were based on a five-point scale, with 1 = "very easy," 2 = "easy," 3 = "not sure," 4 = "difficult," and 5 = "very difficult." For more information on the pattern of responses see the Appendix or the interim report for this study entitled "Summary of Results of the Practitioner and Administrator Survey" (January 30, 1981).

Five of the objectives were rated as easier than the others. These five which received "easy" to "not sure" ratings are:

- Students should be able to locate and use occupational reference materials;
- Students should be able to demonstrate the skills used in applying for a job;
- Students should be knowledgeable about education and training opportunities;
- Students should be knowledgeable about how jobs are classified; and
- Students should be knowledgeable about the costs of dropping out of school.

Only two objectives received more "difficult" than "easy" ratings:

- Students should be able to state realistic career goals; and
- Students should develop the ability to accept responsibility for their actions in leadership and supporting roles.

#### Summary

There are gaps between the student needs identified in this study and those used to justify current programs and between the proposed student objectives and the currently used core competencies. Further, according to information collected in this phase, it does not appear to be the case that students now are meeting the objectives identified in this study, even when those identified objectives match the current core competencies. At the same time, and the point cannot be made strongly enough, the data on which a fair and full judgment of the success of presently implemented exploratory vocational education courses could be based are not available.

In consequence, this report strongly urges that efforts be undertaken to obtain the data which are needed. If that cannot happen, then the following

suggestions for improving exploratory vocational education can be offered based on the limited data collected through this study:

- Exploratory vocational education should have as its primary purpose helping students gain knowledge of the world of work, the world of education, the world of themselves, and of how those "worlds" are interrelated to make it possible for students to make realistic educational and occupational decisions.
- The curriculum of exploratory vocational education should emphasize the provision of situations in which individual students would have to apply the knowledge gained of specific topics.
- Although it may not be necessary to implement the same exploratory vocational program in all schools serving grades seven through nine, all of those schools should offer exploratory vocational education in some form.

Transforming these general "suggestions" into specific "recommendations" will require the collection and analysis of additional information. The following chapter outlines those information needs.



# 6

## HOW CAN WE KNOW IF THE OBJECTIVES ARE MET?

Throughout this report, the lack of suitable data on which to make judgments or base recommendations has been pointed out time after time. This chapter suggests which data are necessary for those purposes. In particular, the following questions are addressed:

- What criteria should be used to judge student performance?
  - What data are needed?
  - What methodologies are appropriate?
- What criteria should be used to judge program elements?
  - What data are needed?
  - What methodologies are appropriate?

### What Criteria Should be Used to Judge Student Performance?

This question can be answered from two perspectives. The first perspective involves judging how well an individual student has done; the second concerns judging the performance of groups of students such as classrooms or districts. The difference between the two perspectives is primarily a matter of how the information obtained is used. Individual-level information is generally used for such purposes as diagnosis of deficiencies or awarding grades; group-level information is useful for assessing needs, making curricular decisions, and evaluating program success. The latter uses will be covered later in this chapter; here the focus is on judging students and individual-level uses of those judgments.

In judging students in exploratory vocational education, two points seem particularly important:

- Students should be expected to achieve a high level of mastery on each objective, though in some situations it may not be reasonable to expect all students to achieve the same mastery level on all objectives; and
- Levels of mastery should be determined by comparing achievement to fixed standards.

A third point directly related to judging performance in the classroom is that, to the extent possible, students should demonstrate their levels of mastery in applied performance rather than pencil and paper tests. Each of these three points is discussed below.

Mastery of objectives. It is not reasonable to expect all students to achieve 100 percent mastery levels on all objectives. Some students are more able than others, and even very able students are likely to not master all objectives completely. The objectives for students identified in this study are related to basic decisions all young people have to make; therefore, just as North Carolina's competency testing program in basic skills sets a minimum standard, exploratory vocational education should expect all participating students to meet minimum standards of objective attainment in order to complete the program successfully. However, as is the case for basic skills, many students will likely be able to meet minimum standards upon entry to the program for at least some of the objectives. For the program to serve as a challenge for all students, therefore, classroom-established minimum competency levels should differ across students; that is, for some students and some objectives, the expected competency level may be higher (though not lower) than the minimum. For example, a student who "pretests" at about the 70 percent level on an objective might be required to attain an 85 percent mastery level, while a student who pretests at 50 percent may be required to reach a 70 percent mastery level on a particular

objective. These are examples; the experience of classroom teachers would provide the basis for determining more accurate criteria for individual students. What the minimum standard should be is currently an open question. One way to determine the standard might be to use panels of educators involved with youth in the middle and high school grades to determine that standard in light of the importance of each objective and the difficulty of the items used to measure its attainment. (It should be noted that there is no incompatibility between having varying standards for different students and evaluating program components' effectiveness across students. This point will be discussed further later in this chapter.)

Comparison to fixed standards. If two students in different classrooms are both judged to perform at, say, the 80 percent mastery level on an objective, their performance levels should be equivalent. That is, their performances should be measured against the same yardstick and in a similar way. For example, if a written test were used, then the same test should be used in both classrooms, and the two students would have answered the same number of items correct, though not necessarily the same items.

Using the same measurement devices to determine mastery levels does not preclude the use of other, locally developed "tests" for classroom purposes. As an illustration, the Division of Vocational Education currently provides an item bank tailored to the prevocational competencies. A similar series, with items selected to reflect known levels of difficulty, could be developed to judge attainment of the student objectives proposed in this report.\* Item-banking will be discussed further in a later section.

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\* An advantage to the current item bank is that it allows teachers to select items on a flexible basis; this is also a disadvantage since the current item bank contains items which appear to have widely varying difficulty levels. Thus, one student could meet the competency measured by "easy" items, but might not meet it if tested with harder ones.

Applied performance testing. At the conclusion of exploratory vocational education, students should be expected to be able to act upon the knowledge they have gained about the worlds of work, education, and self, and the interrelationships among those worlds. Given that purpose it would seem to be necessary that the ability to act be assessed through acting. Pencil and paper tests, while suitable for measuring some aspects of learning (e.g. knowledge of the entry level requirements for a specific occupation), may not provide a very reliable measure of, for example, how well a student's selection of that occupation as a goal matches his/her educational aspirations and abilities. A simulation (e.g., a mock interview) or an oral presentation may be much more suitable as a classroom activity for determining mastery levels of "action" objectives.\* In short, there is a need for both pencil and paper and applied performance tests which can be administered uniformly across classrooms.

#### What Data Are Needed?

To judge a student's mastery level when the standard can be different for different students requires data on where the student started and where she or he ended up on each objective. More precisely, the following data elements are needed to judge an individual's level of mastery:

- An assessment (or pretest) score on each objective;
- A "target" mastery level for the student on each objective;  
and
- A mastery (or posttest) score on each objective.

With those three data elements (or 60 data elements, if all 20 objectives are considered) it is possible to determine the number of objectives mastered, the level of mastery on each, and the amount of "growth" made during the course of participation.

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\* Such applied performance tests are not well suited for comparing pupils, however, and they are very poorly suited for use in program evaluations.



At the level of judging an individual student's mastery levels, those data elements are all that are required. Additional data are required, however, to judge the effectiveness of program components or configurations of components. These additional requirements are discussed in a later section.

The assessment and mastery (i.e., pretest and posttest) scores for individual students should be based on performance on common tests if mastery levels are to be comparative.\* Such a common test could consist of an identical set of items for each objective with high content validity and known reliability; or, conceivably, an item bank could be developed for each objective with each item having a known "difficulty" rating as well as content validity and known reliability.

#### What Methodologies Are Appropriate?

The key problem involved with judging individuals is developing proper measures. A test may clearly reflect the content of a curriculum unit and the underlying construct (e.g., knowledge of entry requirements) used to structure the curriculum unit, but if the test is not reliable, or if it is too easy or too hard, the results from the test will be only marginally useful. Similar problems are present in tests with high levels of reliability but which do not match the content they are designed to measure.\*\*

In Phase I of this study it was not possible to develop valid and reliable tests for the objectives. Although the current items could be used to measure the objectives for which there is a close match with prevocational competencies,

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\* This "common test" requirement is not necessary if, for program evaluation, a "standardized test" is to be used. This is discussed later in this chapter.

\*\* It should be noted that to judge an individual's performance rather than that of a group, the measuring device must be extremely reliable. Thus, since that condition is very difficult to meet, it may be necessary to use additional methods to judge each individual, such as teacher ratings, to assign grades.

the resulting measures would likely be unreliable. One major task of Phase II should be to determine the validity, reliability, and difficulty levels of the current items. New items would have to be developed, of course, for the few objectives which are not matched with current core competencies. Further, it may be necessary to develop an entirely new set of items to measure objective attainment adequately.

#### What Criteria Should be Used to Judge Program Elements?

All other things being equal, program elements (e.g., curriculum components, activities, configurations of components) should be judged on their relative effectiveness in helping students attain higher mastery levels on the objectives. That is, with other factors not considered, those program elements that are related to the greatest mastery growth across students would be judged to be relatively more successful. To be able to make those judgments, however, requires an evaluation design which takes a variety of concerns into account. For example, it is necessary to specify clearly what the program elements are and what their relationships are to the objectives and to other program elements. It is also necessary to have comparable data across students on which to judge their performance. And, as another example, it is also necessary to specify what those "other things being equal" actually are and how they should be taken into account when making final judgments about the effectiveness of program elements. These and other topics are discussed in this section.

#### What Data Are Needed?

To judge the relative effectiveness of program elements, data are needed which (1) allow a clear delineation of what the element is and is not, (2) permit tying the element directly to student performance, and (3) suggest what

other factors may also be important. These three data needs are discussed in this section.

Delineate program elements. There are several courses in addition to those in the prevocational area which provide exploratory level experiences in vocational education. Further, even within the prevocational area, seven separate course sequencing options are available to districts. Finally, though the point was not made earlier, even within a single course (e.g., Occupational Exploration) there appears to be variation from district to district and school to school in the number of teachers and separate labs that are involved.

From another perspective, the time spent on particular topics is likely to vary from one exploratory class to another. The materials used in class, the use of outside resources, and the instructional approach (e.g., experiential or lecture) are also likely to vary.

Given all these possible types of variations in the "treatment" received by a particular student, it can be difficult to untangle the relationship between a "treatment" and student performance. What is needed is a description of the key dimensions along which the treatments vary. To do this it will be first necessary to study a sample of classrooms in detail. The data obtained would then be analyzed to identify the key dimensions along which the "treatments" differ. These key dimensions (e.g., time on task, use of experiential mode, teacher-made materials, number of teachers, or teacher:pupil instructional ratio) would in turn define the program elements. The program elements themselves could be thought of as single dimensions for some purposes or multiple dimensions for others.

Student performance data. Earlier in this chapter three data elements were suggested as being necessary to judge an individual student's performance. These were, for each objective, (1) an assessment score, (2) a target score, and (3) a

mastery score. To judge performance across students in relation to a program element requires only assessment and mastery scores on a common measure. The common measure could consist of valid and reliable "mini-tests" for each objective administered uniformly to all exploratory vocational education students. The scores could also be obtained by using a single standardized test statewide on a pretest-posttest basis. The mini-test option has the advantage of potentially providing the classroom teacher a large amount of information about each student, but to administer a series of mini-tests would require a substantial amount of time to cover all 20 objectives. The single pretest-posttest option has the advantage of taking relatively little time at the classroom level,<sup>\*</sup> but does not provide the teacher as much individual-level information.

Regardless of the type of test administered, it will be necessary to obtain a standard "growth" score for all participating students. Use of a criterion referenced test usually has the disadvantage that raw score differences do not reflect equal intervals. That is, unless all items are of exactly equal difficulty, it is not possible to determine how much growth took place between a pretest and a posttest. One solution is for percentiles to be calculated for the first pre- and posttest administrations to determine "norms." Then, since percentiles are not an equal interval measure either, the percentiles could be converted to Normal Curve Equivalents as is done in ESEA Title I evaluations. If those steps are followed, then it will be possible to determine the amount of relative performance growth across students and, in turn, to use that relative growth measure to determine program element effectiveness through one of a variety of correlational approaches such as regression.

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<sup>\*</sup>For a statewide test, the time saved at the classroom level must be balanced against the possible time or other costs needed to score such a test at the state level or elsewhere.



Other important factors. The above has been premised on looking at program elements and student growth with "all other things being equal." However, those "other things" are rarely equal, and, to judge the effectiveness of program elements, they should be taken into account. Among the factors that should be considered are the following:

- School Program Characteristics -- other programs with parallel objectives (e.g., career education), presence of vocational counselors, "feeder school" programs, etc.
- School Staff Characteristics -- training and experience of program staff.
- School Setting Characteristics -- class length and scheduling, facilities.
- School Climate -- student and staff morale, relative emphasis on "basics," etc.
- District Characteristics -- per pupil expenditures for programs, size of district, number of schools, etc.
- Community Characteristics -- employment characteristics and outlooks, demographic characteristics.

The factors listed above are designed to be illustrative rather than conclusive.

The important point is that a variety of "other things" should be considered.

#### What Methodologies Are Appropriate?

To obtain the data described in the previous section will require a series of major tasks. First, a common instrument, whether a set of tests for each objective or a single test across objectives will have to be developed and pretested. "Experts" should be involved in determining content validity, and the results of the pretest should be analyzed to determine the reliability of the items.\*

Second, and simultaneously with instrument development, data on exploratory vocational education programs must be obtained from a sufficiently large sample

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\* If test development is based upon the currently available item bank, then this task may be made somewhat easier as all items have been judged on their content validity. However, it is not clear (1) whether the content actually follows what is taught in the prevocational courses or (2) whether the items are reliable.

of classrooms to permit a determination of the key dimensions along which the programs vary. Once the key dimensions are identified, an inventory will have to be developed to permit obtaining program level data on "treatments."

Third, the final student performance test (or tests) would be administered on a pre-posttest basis, and the scores would be converted to a standard scale such as that provided by Normal Curve Equivalents.

Fourth, information about "other factors" would be obtained from each school, LEA, and community involved in the study. This step, therefore, requires the development of an additional inventory or checklist.

The data collected in the four tasks described above could then be analyzed through, for example, multiple regression. The dependent variable, student growth from pretest to posttest, would be set as a function of each of the dimensions used to describe program elements. In turn, the program element dimensions could be "explained" with the data on other factors collected in the fourth task.

### Summary

This chapter has described two parallel evaluation activities. The first activity would involve judging the performance of individual students and focuses on how to measure their mastery of the student objectives identified in this report. The second activity, evaluating the effectiveness of program elements, would use the performance of students as the dependent variable. Briefly stated, program elements would be judged on their relative effectiveness in helping students achieve growth in their mastery levels.

The evaluation activities suggested in this chapter can, if implemented fully, provide the data on which current program elements can be judged and on which program improvement efforts can be based. The methodologies discussed in this

chapter should be considered as a first step in the development of an evaluation design which would provide program improvement data and help meet federal evaluation requirements. Certainly the design needs to be refined and tested before it can be implemented on a statewide basis, which could be one aspect of Phase II. For example, even though a substantial amount of work has been put into the current test item bank, additional work is needed to develop new items and to determine the validity and reliability of both the new and current items. The Division of Vocational Education and the State Board of Education are presently reviewing the status of all vocational programs in order to chart new directions. Without the implementation of a sound evaluation design for the exploratory vocational programs, this review and subsequent decisions stemming from it will necessarily be based on incomplete information. The investment in such a sound design would likely repay itself quickly simply by helping ensure that the best decisions are made in terms of the state's young people and the programs designed to assist them.





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\*\* NCS DPI = North Carolina State Department of Public Instruction.

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## APPENDIX

### STUDY METHODOLOGY

This appendix provides a brief description of the procedures used to collect and analyze the data on which this report was based. Four activities are described in detail. These include (1) interviews with state-level administrators, (2) literature review, (3) stakeholder focus group meetings, and (4) practitioner and administrator survey. The other two data collection activities, i.e., solicitation of information from statewide groups and a survey of activities in other states will be treated briefly as they provided only marginal information.

#### State-Level Administrator Interviews

During the first seven weeks of this study, individual interviews were held with twelve present or former state-level administrators in the Division of Vocational Education.\* These individuals included those with responsibilities cutting across vocational program areas as well as many with responsibilities within specific program areas. It was also possible to meet with five individuals responsible for other-than-vocational areas or for broader areas which included vocational education. Separate interviews were conducted with one member of the State Board of Education and one member of the faculty of North Carolina State University who have been closely involved with exploratory vocational education. In addition to the individual-level interviews, two group "interviews"/presentations were conducted. One of these involved six members of the policy-making

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\* As confidentiality was assured all those who participated in the study, no specific names or positions will be identified.

staff of the Division of Vocational Education, and the second involved those responsible for program operations. Including all participants in this state-level data collection activity, over 40 people were given the opportunity to provide information for the study.

Although the specific questions were "tailored" to each respondent based on his/her role, several topics were common to all interviews. These topics were:

- Perceived purpose of the study;
- Rationales for current program designs;
- Perspectives on desired program designs;
- Desired program purposes and objectives;
- Expectations for students;
- Evaluative criteria; and
- Program "context" concerns.

The results of the individual and group interviews were presented in an interim report entitled "State-Level Perspectives on Exploratory Vocational Education: A Synthesis and Summary of Findings" (October 10, 1980).

### Literature Review

The literature base for the review was composed of four major elements:

1) an ERIC search; 2) other literary resources; 3) fugitive documents; and 4) previous reviews in related areas. The most important of these four was a search of documents through ERIC, using both Resources in Education (RIE) and Current Index of Journals in Education (CIJE). This search, which included all citations from 1975 to the present, was based on the following descriptors: career education, career exploration, career guidance, career information,



career ladders, career opportunities, career orientations, career planning, occupational aspiration, occupational choice, occupational guidance, pretechnical education, prevocational education, vocational adjustment, vocational counseling, vocational development, vocational education, vocational interests, vocational maturity, and vocational schools. From the thousands of entries, approximately 200 citations were selected and reviewed for their relevance. Of these, less than 40 were judged to be actually relevant.

The second element in the literature base included other library resources. Several volumes as well as journal articles not included in ERIC were located through catalogue and other searches. Further, bibliographies from the already reviewed literature were used to identify other resources.

The third element consisted of a large quantity of "fugitive" materials supplied by personnel in the North Carolina State Department of Public Instruction (NCS DPI). These materials included several documents not available through other sources as well as several others which, while perhaps available in ERIC, predated the beginning year for that search.

The fourth element, other reviews, is more properly a subset of the other three elements. In each of the searches, a special effort was made to locate previous reviews to help identify key sources and to take advantage of the previous integrative work in this field.

#### Stakeholder Focus Group Meetings

In all meetings with state level personnel one activity was soliciting nominations for people to participate in one of a series of stakeholder focus group meetings. Other nominations were obtained from regional vocational education coordinators and local vocational (or occupational) directors in each of the four sites selected for the meetings.

The lists of nominees were examined to determine those individuals nominated more than once and to ensure that enough people had been nominated to "fill" each of the meetings planned for each site. All individuals nominated more than once were selected and invited to participate. Others were selected based on their proximity to an appropriate meeting site and to ensure that at least one of each nominator's nominees were included.

Although eight separate meetings were planned, only six took place. Four of the meetings were combined into two because of last-minute cancellations by selected participants. The sites of the meetings and the types of participants in each are described below.

- |                                    |  |
|------------------------------------|--|
| • Pitt County (Greenville)         | - District and Building Educational Administrators   |
|                                    | - Representatives of other Agencies  |
| • Brunswick County (Southport)     | - Vocational Education Practitioners   |
|                                    | - Nonvocational Education Practitioners  |
| • Wilkes County (North Wilkesboro) | - Vocational and Nonvocational Education Practitioners   |
| • Mecklenburg County (Charlotte)   | - Local District and Building Educational Administrators and Representatives of Other Agencies |

The purpose of the stakeholder focus group meetings was to provide an opportunity for a variety of viewpoints to be heard and discussed in an informal setting. The methodology of these meetings is designed to first obtain a variety of perspectives and then, by discussing the variety, to focus in on the points on which there is agreement. Four general questions were used to begin the discussions in each of the meetings:

- What are the two or three most important needs of young people that should be addressed by any vocational education program?
- Which groups of young people should be given the highest priority to be served by prevocational education programs?

- What are the two or three specific things that students should know as a result of participating in a prevocational education program?
- What are two or three specific things that students should be able to do as a result of participating in a prevocational education program?

The results of the focus group meetings were presented in an interim report entitled "Prevocational Needs and Objectives: Summary and Synthesis of Stakeholder Focus Group Meetings" (January 13, 1981).

### Practitioner and Administrator Survey

#### Survey Instrument

As a result of prior data collection activities, 268 potential student objectives were identified. Potential objectives which were not directly student related, including those which could be more properly labeled "program" objectives (e.g., helping reduce drop-out rates), were removed from the lists. Comparing the separate lists of potential objectives from each of the four prior data collection activities, it was possible to reduce the number of objectives to twenty.

The 20 potential study objectives were then examined to ensure representation of the categories suggested to be of greatest importance by participants in the stakeholder focus group meetings. This step led to rewriting a few objectives, but did not lead to any substantive changes. All objectives were then reviewed by NTS staff not directly involved in this study to ensure they could be understood; a few objectives were slightly rewritten as a result of this review, but again there were no substantive changes. The final instrument, and its item response patterns, is presented on the following three pages.

# PRACTITIONER AND ADMINISTRATOR SURVEY

## AND SURVEY ITEM RESPONSE PATTERNS

Proposed Objectives	1. How important is the proposed objective?				2. Do you think most ninth grade students meet the objective now?					3. How difficult would it be to implement a program to meet this objective?			
	Very Important	Important	Not Sure	Not Important	Very Unimportant	Nearly All Meet	Most Meet	Not Sure	Most Do Not Meet	Nearly All Do Not Meet	Very Easy	Not Sure	Difficult
STUDENTS SHOULD BE KNOWLEDGEABLE ABOUT													
1. activities, rewards, and work situations in a wide variety of jobs.	95	60	3	1	0	2	44	22	79	13	10	85	3
2. skills and education required for entry into specific jobs.	92	63	1	4	0	2	39	20	87	12	11	82	4
3. present and future labor market possibilities.	53	95	11	1	0	0	19	32	82	28	8	71	6
4. education and training options and opportunities	87	62	9	0	0	2	47	33	62	13	7	101	2
5. how jobs are classified.	15	56	37	50	1	4	35	35	50	34	16	77	5
6. the costs of, and alternatives to, dropping out of school.	110	44	6	1	0	7	44	35	60	14	11	89	3
7. means for overcoming traditional occupational barriers related to sex and gender.	34	84	23	16	4	7	38	33	57	25	9	55	8
8. process of decisionmaking.	106	43	6	3	1	5	33	37	65	19	11	59	7

This data collection activity was approved by the North Carolina State Board of Education as an integral part of the work to be conducted under Contract C7212.



Proposed Objectives	1. How important is the proposed objective?					2. Do you think most ninth grade students meet the objective now?					3. How difficult would it be to implement a program to meet this objective?				
	Very Important	Important	Not Sure	Not Important	Very Un-Important	Nearly All Meet	Most Meet	Not Sure	Most Do Not Meet	Nearly All Do Not Meet	Very Easy	Easy	Not Sure	Difficult	Very Difficult
STUDENTS SHOULD UNDERSTAND															
9. their own attitudes, interests, values, and needs.	125	35	0	0	0	5	47	29	74	5	12	72	23	47	6
10. the need for economic independence through work.	78	71	8	1	0	4	38	52	61	4	7	78	42	29	2
11. the dignity inherent in work.	101	53	4	1	0	3	41	43	61	11	7	69	39	39	6
12. how knowledge of themselves can be used to help make educational and occupational decisions.	91	63	5	0	0	7	35	4	69	8	13	69	29	44	2
STUDENTS SHOULD DEVELOP															
13. good work habits and attitudes.	135	26	0	0	0	8	49	34	61	8	12	64	29	52	1
14. Improved self-esteem.	102	55	3	0	0	1	51	72	35	2	9	53	44	50	4
15. ability to accept responsibility for their actions in leadership and supporting roles.	109	47	5	0	0	1	42	35	75	7	8	46	51	56	8
STUDENTS SHOULD BE ABLE TO															
16. plan a realistic educational program.	76	66	9	9	0	2	32	34	78	14	10	67	28	43	10

This data collection activity was approved by the North Carolina State Board of Education as an integral part of the work to be conducted under Contract C7212.

Proposed Objectives	1. How important is the proposed objective?					2. Do you think most ninth grade students meet the objective now?					3. How difficult would it be to implement a program to meet this objective?				
	Very Important	Important	Not Sure	Not Important	Very Unimportant	Nearly All Meet	Most Meet	Not Sure	Do Not Meet	Nearly All Do Not Meet	Very Easy	Easy	Not Sure	Difficult	Very Difficult
STUDENTS SHOULD BE ABLE TO															
17. locate and use occupational reference materials on their own.	52	89	15	3	0	5	54	27	59	12	20	107	17	13	0
18. conduct self-appraisals on an ongoing basis.	42	97	17	2	1	0	23	48	72	14	4	57	48	43	5
19. state realistic career goals.	63	75	11	9	0	1	26	31	86	11	7	50	36	51	9
20. demonstrate the skills used in applying for a job.	73	71	7	8	0	4	37	28	78	10	16	102	16	19	3

4. Please write in the numbers of three of the objectives listed above which you think are the most important: \_\_\_\_\_

5. Please write in the numbers of three of the objectives listed above which you think are the least important: \_\_\_\_\_

6. If you have comments you would like to make, please feel free to use the rest of this page:

Thank you very much for taking the time to answer the questions posed by this survey.

Ernest W. Strang  
Project Director

This data collection activity was approved by the North Carolina State Board of Education as an integral part of the work to be conducted under Contract C7212.

## Sampling Design

Practical limits on the number of people who could be surveyed led NTS to suggest in the project proposal that the sample size should be 200, with that number split evenly between administrators and practitioners. In addition, it was proposed that all individuals who had participated in other data collection activities would be included with the balance of the sample selected randomly.

The sampling design was refined during the course of the study in terms of both of those proposed dimensions. The administrator and practitioner groups were broken down into four and two major subgroups, respectively. Further, in addition to those who had participated in prior activities and the random sample, a sample of the individuals who had been nominated for, but had not participated in, prior activities was included. Finally, both the administrator and practitioner sample sizes were reduced to 90, and 20 representatives of other agencies were added to the overall sample to bring the total sample size up to 200.

The methods used to select sample participants varied depending on whether or not the groups had been involved in prior activities. These methods are described briefly in the following sections.

Prior participants. All of those who had been involved in prior activities were included in the sample. The total number of 67 possible respondents in this group consisted of: 23 practitioners, 16 administrators, and 9 representatives of other agencies who had participated in focus group activities; 14 state level administrators who had participated in other meetings; and 5 members of an "advisory group" of community college/technical college instructional deans.

Nominees for prior activities. From the lists of people who had been nominated to participate in focus group meetings but who had either not been selected or who could not attend, a total of 38 people were selected randomly for inclusion in the

sample. This total consisted of 17 practitioners (of 35 nominees), 15 (of 25) administrators, and all six representatives of other agencies.

Random sample. To fill out the sample, 95 people were selected randomly. Of these 95, 50 were practitioners who were selected from lists made available by the Division of Vocational Education. To draw each of the subsamples, districts were first selected randomly (using a table of random numbers) and independently, then a page from that district's listing was selected (again based on a table of random numbers), and, finally, the first person listed on that page within the designated subgroup was selected.

The subsample of building and district administrators (a total of 45) were selected from the North Carolina Education Directory. For building administrators, districts were selected based on random numbers tables, and schools were then selected in a similar way. (The sample was restricted to secondary schools; if an elementary school was selected, a new random number was drawn). District administrator selection combined random and purposive elements. Two independent samples of 10 districts were drawn, one for vocational education administrators and the other for nonvocational education administrators. The vocational education (or occupational education) director or the administrator most directly involved in secondary school instruction was selected from the respective districts. (In cases where no such individual could be identified, a new district was selected randomly).

For the sample of state administrators, all seven remaining regional vocational education coordinators (the eighth had been included as a focus group participant) were selected. In addition, from the list of vocational education consultants listed in the education directory, eight consultants were selected randomly.

#### Data Collection

NTS originally proposed to use a mail survey with telephone follow-up as necessary to attain a 75 percent response rate. Because of the changes made in the



sampling frame, it was decided that an attempt would be made to attain the 75 percent response rate from each subgroup. The only subgroups for which this rate could not be achieved within the time available for this activity were "other vocational education practitioners-random sample" (60.0 percent) "state administrators" (73.3 percent), and "regional coordinators-random sample (73.3 percent). Overall, a total of 161 responses were returned, or 80.5 percent. The table on the following page presents the number of responses received in each category.

The results obtained from the survey were reported in an interim report entitled "Summary of Results of the Practitioner and Administrator Survey" (January 30, 1981).

#### Other Data Collection Activities

Two additional activities were carried out in Phase I, neither of which provided much useful information. The first activity was a survey of selected states. Several states, which had been identified through the literature or through conversations with vocational educators in North Carolina or at the Bureau of Occupational and Adult Education, were contacted to obtain information about their exploratory vocational education program. This effort added very little to the information already gathered through the literature review.

The second activity involved soliciting information from statewide organizations. Although this activity was not originally proposed (and, thus, there were no funds available to carry it out), it was possible to obtain information from the State Advisory Committee on Education, CETA Youth Programs (within the Balance of State Prime Sponsor), and the Association of Community/Technical Colleges instructional deans. The first two groups provided relevant background

Survey Response Rates

Actual N (and percent of possible responses) by Sampling Cell

Participant Group	Prior Involvement Groups			Totals
	Prior Participants	Nominees	Random Sample	
Vocational Practitioners	9/75.0%	7/82.5%	26/74.3% (Prevoc - 12/80.0%) (Home Ec - 4/80.0%) (Ind.Arts - 4/80.0%) (Other VE - 6/60.0%)	42/76.4%
Nonvocational Practitioners	10/91.1%	6/66.7%	13/86.7%	29/82.9%
(Total Practitioners)	(19/82.6%)	(13/76.5%)	(39/78.0%)	(71/78.9%)
IEA-Vocational Administrator	9/100.0%	6/85.7%	8/80.0%	23/88.5%
IEA-Nonvocational Administrators	3/100.0%	1/100.0%	9/90.0%	13/92.9%
Building Administrators	3/100.0%	6/85.7%	8/80.0%	17/85.0%
State Administrators	11/73.3%	N/A	11/73.3% (Reg. Coord - 5/71.4%) (VE Consultants-6/75.0%)	22/73.3%
(Total Administrators)	(26/86.7%)	(13/86.7%)	(36/80.0%)	(75/83.3%)
Representatives of other Agencies	10/66.7%	5/83.3%	N/A	15/75.0%
TOTALS	55/82.1%	31/81.6%	75/78.9%	161/80.5%

information, while an active role was taken by six instructional deans. One instructional dean participated in a stakeholder focus group meeting; all of them were included in the sample for the practitioner and administrator survey.







